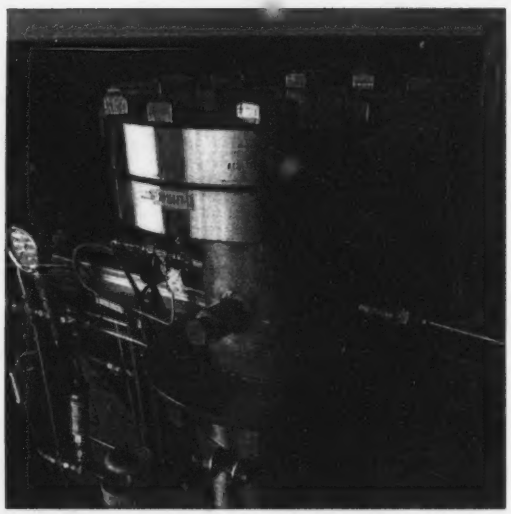
Annual Report 2005-2006

Ontario
Innovation
Trust

Putting Research in its Place



If Ontario is to have a place of significance in the 21st century, it will be because we've made a significant place for research. In these knowledge-driven times, the jurisdictions that enjoy global leadership—as well as quality of life and economic prosperity—will be those that make science a priority and innovation a focus.

In Ontario, we're already seeing what happens when we put research in its proper place. Let me give you just three examples. At St. Michael's Hospital in Toronto, Dr. Duncan Stewart's pioneering cardiovascular gene therapy is in the final stages of clinical trials, and participants are experiencing astonishing recoveries. At Lakehead University, Dr. Ellie Prepas is creating sophisticated forest management software that's already enabling companies to develop sustainable and responsible forestry plans. And at Loyalist College, researcher Kari Kramp is exploring environmentally-friendly ways to extract material from plants for the booming fields of natural pharmaceuticals and nutritional supplements.

These projects indicate what can happen when we make research a priority. But a prominent place for research on the provincial agenda also demands the very best physical places for that research to happen. Providing these environments—a number of which are featured in this report—is a major part of the mandate of the Ontario Innovation Trust.

In fulfilling that mandate, the Trust has been ably led by my predecessor in the Chair, Dr. Bette Stephenson. On behalf of all the members of the Board, I want to thank her for her outstanding leadership, and extend our best wishes as she continues to contribute to the strength and diversity of life in Ontario.

In her message last year, Dr. Stephenson spoke of the importance of partnership—an emphasis I would like to echo. We applaud the government of Ontario for its unflagging commitment to science, through the Ministry of Research and Innovation, and the federal government for its continuing support of the Canada Foundation for Innovation and other key federal programs. And of course, there are the hundreds of private enterprises, small and large, that provide support in a host of different ways. A list can be found on pages 28 and 29.

Together with all of these partners, we at the Ontario Innovation Trust are committed to continuing our efforts to put advanced research in its proper place in Ontario, so that Ontario may in turn take its proper place in the new century.

J. Robert S. Prichard

J. Robert S. Prichard
Chair, Ontario Innovation Trust

ABOUT THIS REPORT

This report covers the activities and financial position of the Ontario Innovation Trust up to March 31, 2006, with a particular focus on the last 12 months of that period. Significant program events that occured after the reporting period may also be referenced.

The Ontario Innovation Trust was created by the Government of Ontario to invest in research equipment and facilities at Ontario's universities, colleges, research hospitals and other non-profit research institutions. The Trust is governed by an independent Board of Directors, according to the terms of a Trust agreement established by the Ontario government. A small professional staff administers the program.

COVER PHOTO: THE ATRIUM OF THE JAMES STEWART CENTRE FOR MATHEMATICS AT MCMASTER UNIVERSITY

The Year in Brief

In 2005/2006, the Ontario Innovation Trust continued to fulfill its mandate to enhance research infrastructure at Ontario's universities, research hospitals, colleges and research institutes. While the Trust has committed the entire capital of its original endowment, plus earned interest, it continues to play an active role:

- managing and investing funds awaiting disbursement
- tracking and evaluating progress of supported projects
- releasing installments to supported projects according to contract schedules
- reporting to stakeholders and the public on the progress of supported projects
- promoting awareness of the role and importance of advanced research in Ontario.

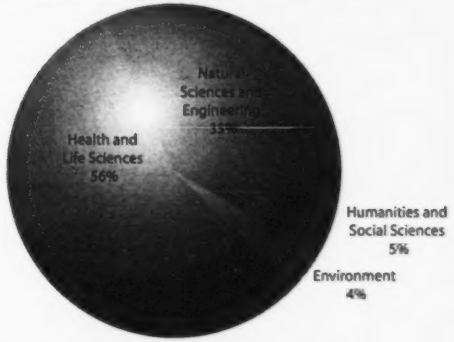
Here are the highlights from the report period:

- A further $118,337,617 was released in new installments to supported projects. This brings the total of funds disbursed since the inception of the Trust to $688,759,378, representing 81.5% percent of committed funds.
- A fourth round of the Ontario Community College Infrastructure Program was held in 2005. The Trust committed $577,435 to 4 projects. Details can be found on page 13.
- Offices for the Trust moved to slightly smaller quarters in the Heritage building of the new MaRS Centre in Toronto's Discovery District.
- The Trust re-launched its web site with a focus on reporting the progress and success of supported projects. *www.oit.on.ca*

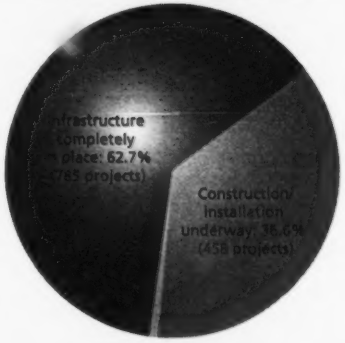
A financial summary for the report period can be found on pages 32 and 33.

For a complete and up-to-date list of Ontario Innovation Trust investments visit us at www.oit.on.ca

Infrastructure Investments by Discipline

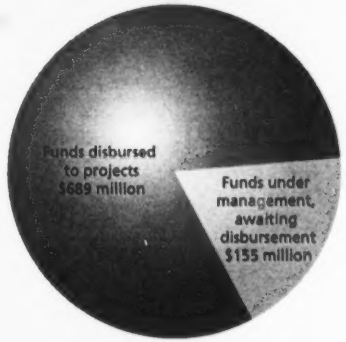


Status of Supported Projects

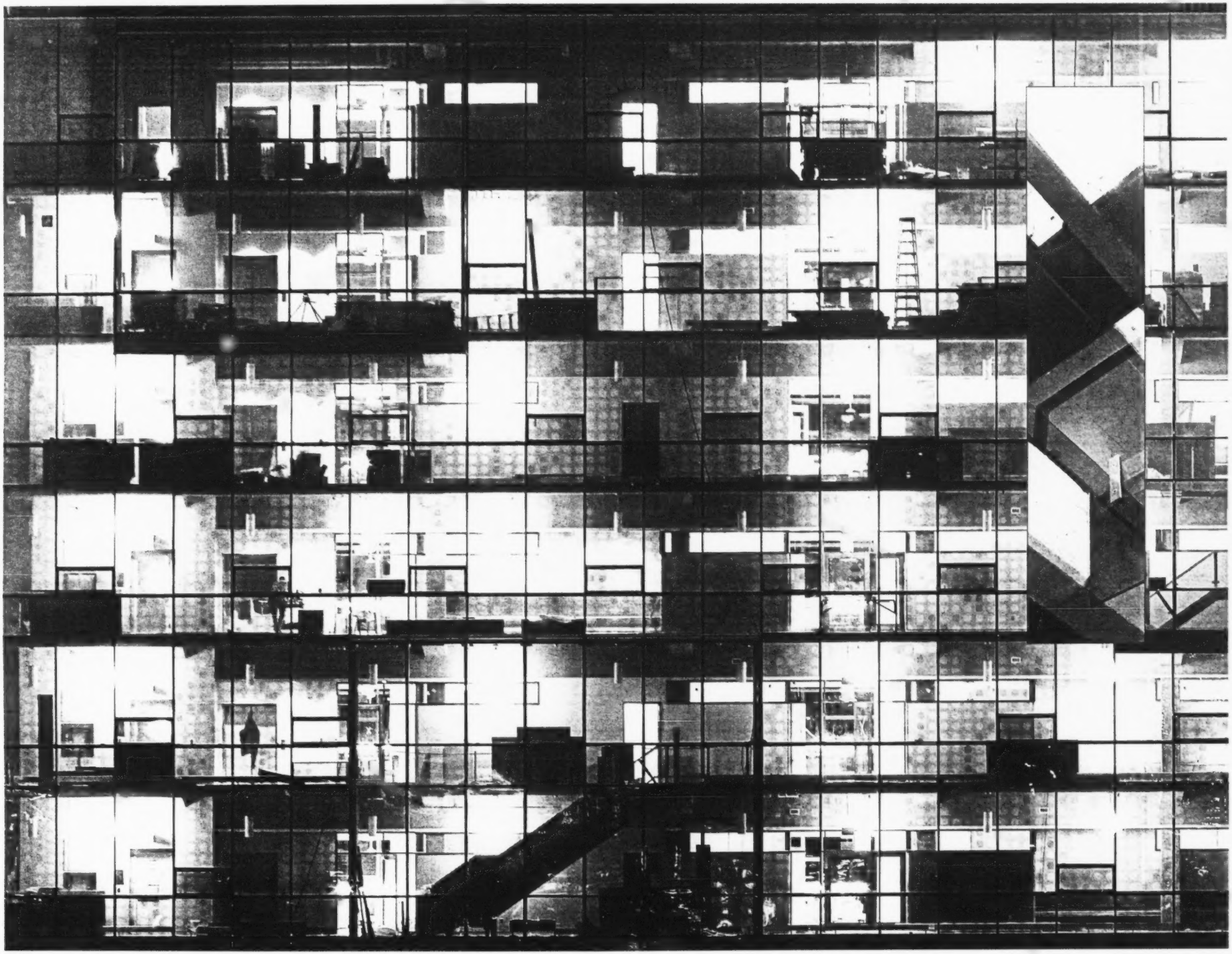


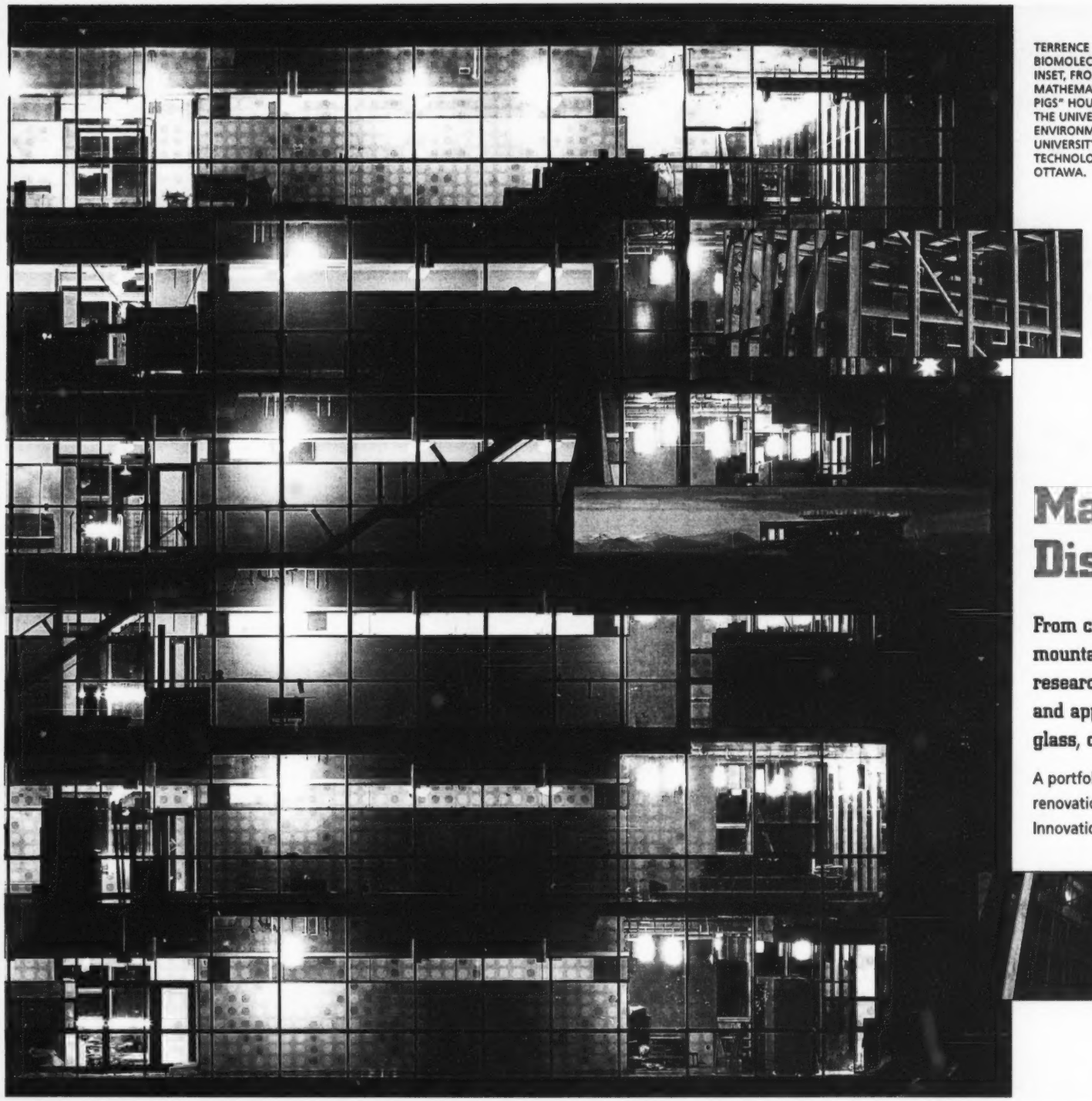
Approved, awaiting construction/installation: 0.7% (8 projects)

Disbursements



All figures as of March 31, 2006





TERRENCE DONNELLY CENTRE FOR CELLULAR AND BIOMOLECULAR RESEARCH, UNIVERSITY OF TORONTO. INSET, FROM TOP LEFT: JAMES STEWART CENTRE FOR MATHEMATICS , MCMASTER UNIVERSITY; "THREE LITTLE PIGS" HOUSING CONSTRUCTION RESEARCH PROJECT, THE UNIVERSITY OF WESTERN ONTARIO; POLAR ENVIRONMENT ATMOSPHERIC RESEARCH LABORATORY, UNIVERSITY OF TORONTO; SCHOOL OF INFORMATION TECHNOLOGY AND ENGINEERING, UNIVERSITY OF OTTAWA.

Machines for Discovery

From crowded campus to frozen mountaintop, the spirit of research in Ontario finds unique and appropriate expression in glass, concrete and steel.

A portfolio of new building and renovation supported by the Ontario Innovation Trust.

Glass walls and common spaces are fundamental to a "machine" fueled by interaction.

Le Corbusier, one of the most influential architects of the past century, wrote that "houses are machines for living in." Eighty years later, the famous aphorism remains a useful expression of a fundamental idea in architecture: that the most successful buildings function as tools, not simply containers.

This is especially true when it comes to facilities for research. To paraphrase Le Corbusier: science buildings are machines for discovering in.

Since its inception in 1999, the Ontario Innovation Trust has invested significantly in such "machines"—both new buildings and renovated spaces—and the results have taken many forms.

Some are architectural jewels: the University of Toronto's Donnelly Centre for Cellular and Biomolecular Research; the James Stewart Centre for Mathematics at McMaster; and the Queen's Cancer Research Institute in Kingston. Visitors to these and other new research buildings are often struck by the extensive use of glass. Atriums cut through multiple floors. Clerestory windows flood common areas with light. See-through walls reveal scientists at work.

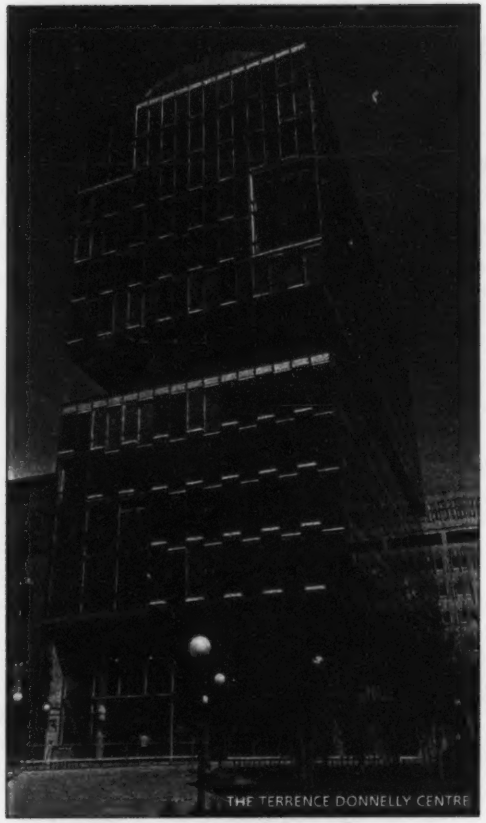
This tendency to physical transparency is no mere design fad. It's an architectural manifestation of a shift that's taken place in research in the last decade. Gone are the days when engineers, biologists, physicists and chemists remained cloistered in their own departments, working on their own problems. Today's scientific advances come only as scientists with very different skills pool their expertise and share their insights. The glass walls and common spaces are fundamental to a "machine" fueled by interaction.

Other research facilities owe less to architecture and more to practicality: the candy-coloured mountain top bunker of the Polar Environment Atmospheric Research Laboratory (PEARL); or the cavernous shed of the "Three Little Pigs" house construction testing facility at the University of Western Ontario.

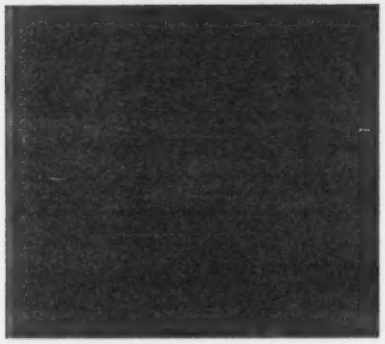
Such buildings wear their functionality more openly, eschewing glass for corrugated steel. But like their more glamorous cousins, they are not merely containers for research; they are tools that facilitate the work of the scientists within.

"One of our goals was to build a place where you can't really predict what will happen." Dr.

A SUNLIT ATRIUM WITH AN INDOOR BAMBOO GARDEN PROVIDES A PLACE FOR RESEARCHERS TO CONVERSE OR REFLECT AT THE UNIVERSITY OF TORONTO'S TERRENCE DONNELLY CENTRE



THE TERRENCE DONNELLY CENTRE



Brenda Andrews is talking about the fundamentally interdisciplinary nature of the Terrence Donnelly Centre for Cellular and Biomolecular Research, a new glass tower on the University of Toronto campus recently completed with the help of funds from the Ontario Innovation Trust.

"Many of the major recent advances in the life sciences have been possible because biologists were talking to engineers and scientists in other disciplines... Interdisciplinary research is what really drives this field."

The Donnelly Centre—where Andrews is the director—was designed from the ground up to make interaction happen. Welcoming common areas dot the facility, encouraging the kinds of chance encounters and informal conversations that can lead to promising new lines of research.

Even the plumbing is designed to foster interdisciplinary interaction. In more traditional science buildings, services like water, waste and gas lines are contained in a central core. The pipes in the Donnelly Centre, however, are concentrated in the west wall, so that the central lab space on each floor can be creatively configured. The "wet labs" of chemists, for instance, co-exist on the same floor as the workstations of computational biologists. This flexibility also means that the labs can be re-configured as the focus of research changes.

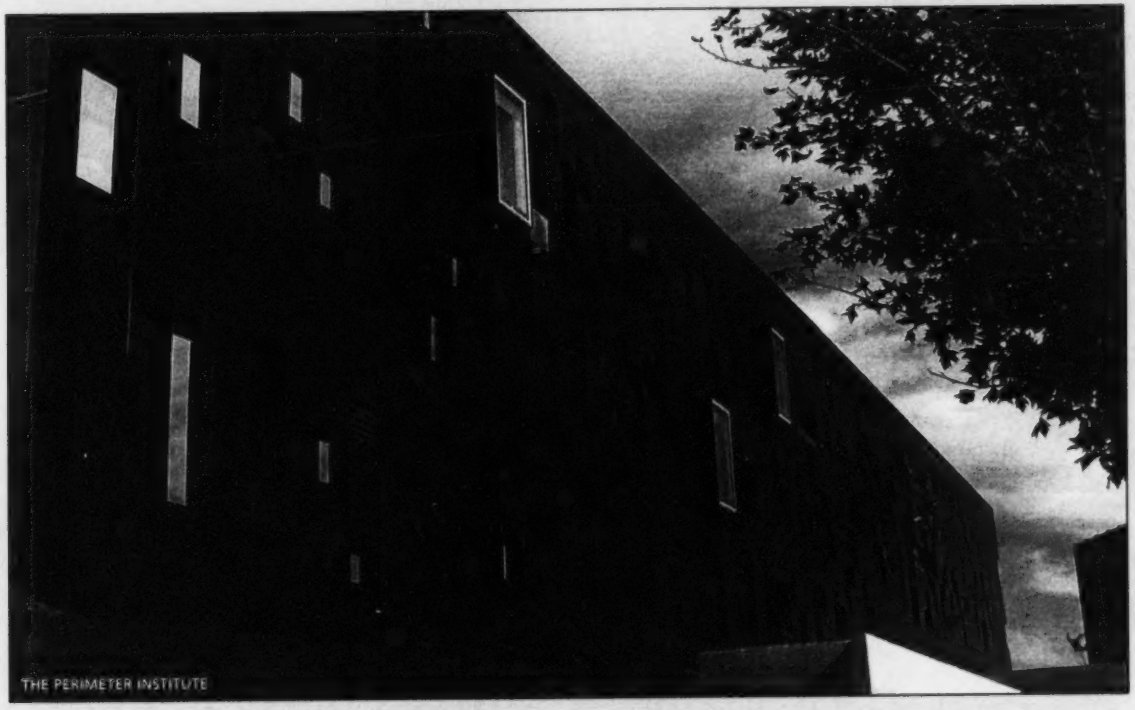
An outstanding facility like the Donnelly Centre also enriches scientific interaction by attracting new talent—an important consideration in an era when global competition for first-tier scientific talent is fierce. "The new building has actually brought a lot of attention to the University because it's beautiful and unique," says Andrews. "Having this type of world class space is a good way to retain the type of people we've already hired, and to attract the kind of people we hope to hire in the future."

Cross-pollination between disciplines was also a priority in the design of another

QUEEN'S CANCER RESEARCH INSTITUTE BRINGS TOGETHER THREE KEY STRANDS OF CANCER RESEARCH

ANNOUNCING EXCITEMENT

ARCHITECTURAL HONOURS FOR TRUST-FUNDED BUILDINGS



THE PERIMETER INSTITUTE

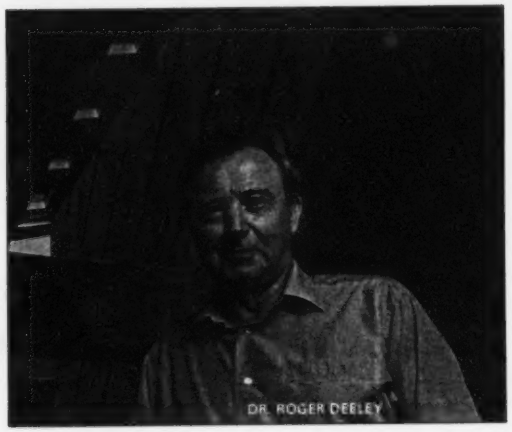
"The exterior facades' almost hyper-real resolution announces the exciting intellectual endeavours happening on the inside."

This was the comment by one member of the jury that awarded a prestigious Governor General's Medal in Architecture to the Perimeter Institute for Theoretical Physics in Waterloo this year. The Institute, funded in part by an investment from the Ontario Innovation Trust, has already received awards for its design from both the Ontario and Quebec Associations of Architects.

Several other Trust-funded buildings have been similarly honoured.

The James Stewart Centre for Mathematics at McMaster University also received a Governor General's award in 2004, as well as a 2005 Honour Award from the American Institute of Architecture. In 2006 the newly-completed Donnelly Centre at the University of Toronto received one of only a handful of international awards from the Royal Institute of British Architects. And also in 2006, MaRS was named Intelligent Building of the Year by the New York-based Intelligent Community Forum.

Trust-funded facility, the new Queen's Cancer Research Institute at Queen's University. The institute uniquely brings together three key strands in cancer research: biology and genetics, epidemiology and cancer care, and clinical trials. "Our focus is really on trying to develop insights that lie at the interface between those three areas: fundamental, clinical and population research," explains the



DR. ROGER DEELEY

institute's director, Dr. Roger Deeley.

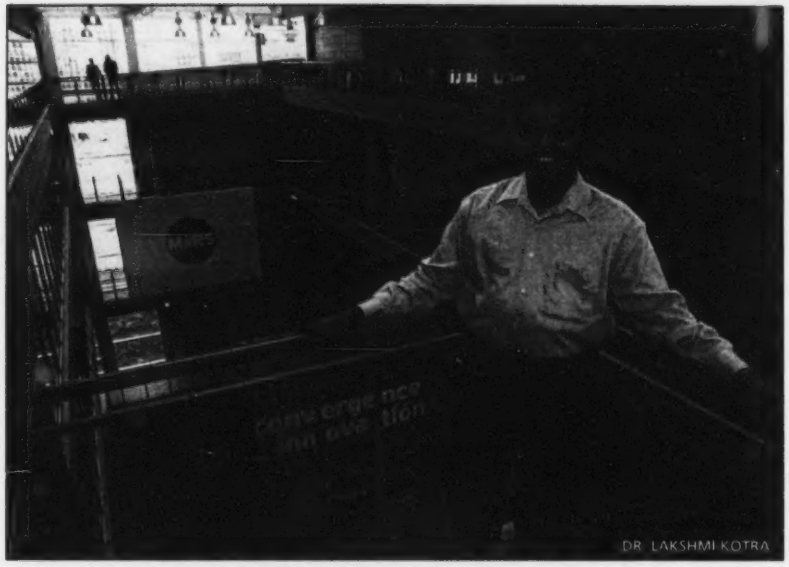
As with the Donnelly Centre, a central atrium makes a powerful visual statement of common purpose. "One of the objectives in the design was to promote vertical integration between the floors. The architects came up with the idea of the atrium and an associated staircase. It opens up the building visually and reminds you that there are other divisions working here." The design of the labs is also as generic as possible. Each lab has a suite of rooms that

can be customized in terms of equipment and use to reflect changing directions.

Is the architecture working? Dr. Deeley replies with a resounding yes. "The institute only opened two years ago, and there's a lot more interaction taking place between the clinical trials group, the population people and the wet lab scientists than ever happened before."

The glass-and-atrium approach to the research environment is also evident at the MaRS complex in downtown Toronto. Like the Donnelly Centre, the first phase of MaRS incorporates parts of a heritage building, in this case the original Toronto General Hospital. Phase II of the project will add up to 1 million square feet of research and office space.

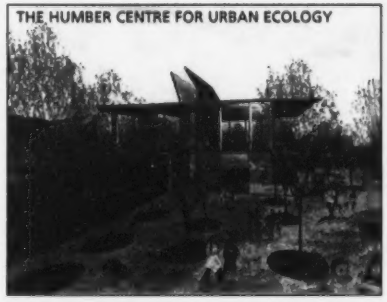
At MaRS, as elsewhere, a key underlying goal is interaction among scientists from widely differing fields, from genomics and proteomics to information technology. But MaRS is unique in that it also provides office space for organizations that give scientists access to business expertise and capital resources. "We need to be taking important discoveries," explains MaRS CEO Ilse Treurnicht, "and converting them to products and services that improve the economy and the quality of life...We have tremendous research strength, but it's urgent that we move on to commercialization and to building the next generation of companies."



DR. LAKSHMI KOTRA

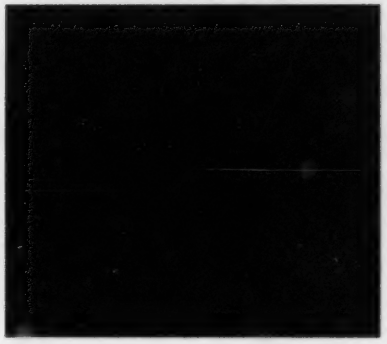
How well is the strategy working? "From my perspective," says Dr. Lakshmi Kotra, "it's working perfectly." Dr. Kotra is director of the Molecular Design and Information Technology Centre, an early-stage drug discovery research group. The Centre moved into expanded new facilities in MaRS in the spring of 2006. "The proximity makes a huge difference. I just go down the elevator and find fifty companies downstairs."

Major science buildings like the MaRS complex tend to capture the imagination on the basis of sheer size, but smaller, more focused facilities can also be very effective "machines for discovery." The Humber Centre for Urban Ecology, for example, is designed to test strategies for making buildings in cities more environmentally friendly. Instead of being connected to Toronto's sewer system, the Centre will harvest rain from a plant-covered roof, storing it in a cistern for later use in irrigation; and a biofilter system will treat grey water and sewage on-site. The "green roof" will also help to cool the building naturally, along with carefully located plantings around the perimeter and a distinctive glass "chimney."



THE HUMBER CENTRE FOR URBAN ECOLOGY

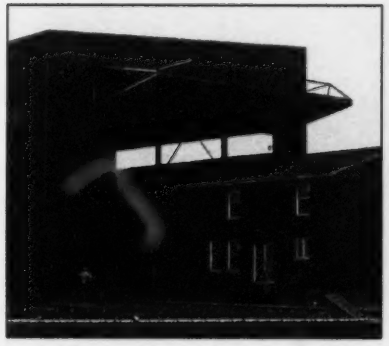
MaRS is unique in that it also provides scientists with access to business expertise and capital resources.

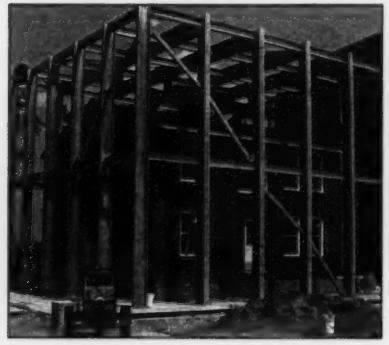


The Centre will be used for environmental education and community events, as part of the Humber Arboretum program. But a complete set of sensors and controls will also make the building a versatile research instrument. "We expect about 15 programs at the college to get involved," says the centre's Principal Researcher, Humber College's Kerry Johnston, "especially in the areas of sustainable building design, programs like Civil Engineering Technology, Architectural Technology and Interior Design, as well as the Electrical Controls, Mechanical Engineering Technology and HVAC programs. ...This is going to provide us with a place to do some valuable applied research."

The hulking blue box at the edge of the London International Airport stands in stark contrast to the sleek glass outlines of buildings like the Humber Centre and MaRS. Yet this corrugated steel shed is also a "machine for discovering in." In fact, to stretch Le Corbusier's words to the limit, it's a machine for discovering about machines for living. For inside the hanger-like structure sits a very ordinary and fully-functional two-story brick house.

The blue box is home to the Three Little Pigs project, an engineering research initiative at the University of Western Ontario. The tongue-in-cheek name is a reference to the research focus: the facility, unique in the world, is designed to test the effects of wind on residential





structures. But this is no wind-tunnel, and there aren't any giant fans. Instead, researchers will simulate wind pressures with 100 pneumatic cells mounted on a heavy steel cage that surrounds the house. The cells are connected to actuators like powerful vacuum cleaners that can be individually controlled to reflect the fluctuating pressures of a severe storm.

The hanger and the house itself are wired with a myriad of sensors to measure changing loads, as well as a network of video cameras to record the effects of the tests. "We expect that the first major damage will be tearing the roof off the second-storey wall," says project researcher, Dr. Michael Bartlett, in a matter-of-fact way. "It's an obvious weak spot."

In a further innovation, the blue outer structure is mounted on rails so that it can be rolled back to expose the house to rain and snow. This will enable other team members to look at moisture penetration and mould formation

"All this data," says Bartlett, "is going to help us develop new building systems that are strong, energy efficient, provide good envelopes, perform well in fires, and are relatively simple to construct."

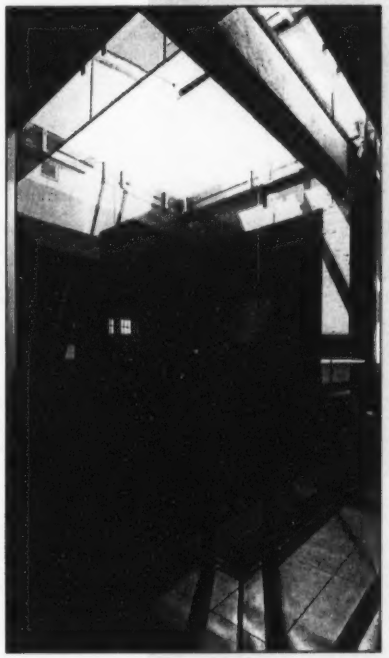
With a little help from this machine for discovering in, Le Corbusier's "machines for living in" could see some significant improvements.

New buildings like the Queen's Cancer Institute and the Donnelly Centre can be designed from the foundation up to promote interaction. But can a renovation produce the same results?

This was the challenge that faced the Department of Mathematics and Statistics at McMaster University in redeveloping a heritage building as the department's new home. They could essentially do what they liked with the interior of Hamilton Hall, built in 1929, but the exterior had to remain intact.

The solution was radical: gut the interior, carve a four-story slice through the centre,

and then bring light to it via skylights and the glass-walled offices that line the perimeter. (See *Uber Modern or Not?* on the next page.) The architects also sprinkled blackboards and desks throughout the new hallways, creating spaces for students and faculty to collaborate on problems. Even some of the mathematicians were skeptical about this one, but in the end, the architects were right: the hallway desks are often crowded with students and the blackboards are full of equations.



Before the construction of the James Stewart Centre (named after a distinguished former member of the Mac mathematics department), the faculty had been scattered across four floors in two different buildings. Now they're all together, and the department is already beginning to see the fruits of increased levels of face-to-face collaboration. "I think too much is made of the revolution in 'e-anything'," says Bradd Hart, head of the department. "Mathematics moves forward by people actually talking to each other."

Another McMaster scientist, Dr. David Andrews, admits that encouraging collaboration wasn't a key consideration in the floor plan design when he first set out to

UBER-MODERN OR NOT?

AN ARCHITECT AND A MATHEMATICIAN REFLECT ON MCMASTER'S JAMES STEWART CENTRE

When he talks about his approach to the James Stewart Centre for Mathematics at McMaster University, architect Bruce Kuwabara begins with a little history.

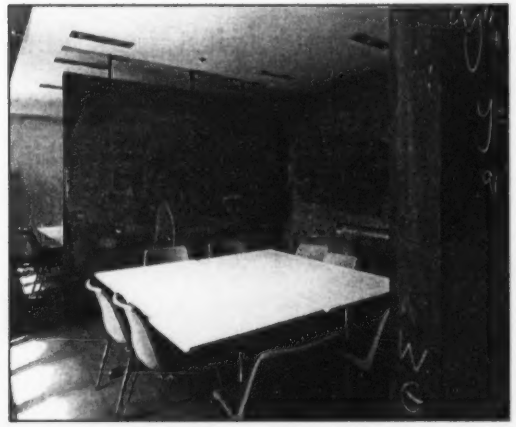
"Hamilton Hall was built in 1929, the same year Le Corbusier was doing La Villa Savois, one of the signature buildings of the modernist movement. The Mac building was a concrete frame structure, which also makes it modern, but it was wearing a tweed suit, called collegiate gothic, which was really nostalgic. So we used the argument that what mathematics is really seeking is truth. And the truth was that this was really a modern building, dressed up."

In Kuwabara's re-visioning of Hamilton Hall, the tweed suit stayed, but the modernist "truth" of the interior got a major update.

The renovated building was initially panned in the student newspaper, which charged that "its new ubermodern interior clashes with its stately historical exterior." But the Centre's users were never in doubt. "The mathematicians got everything we were about," remembers Kuwabara, "right from get-go." Shortly after the paper published its negative review, math faculty member Mattheus Grasselli penned a thoughtful response.

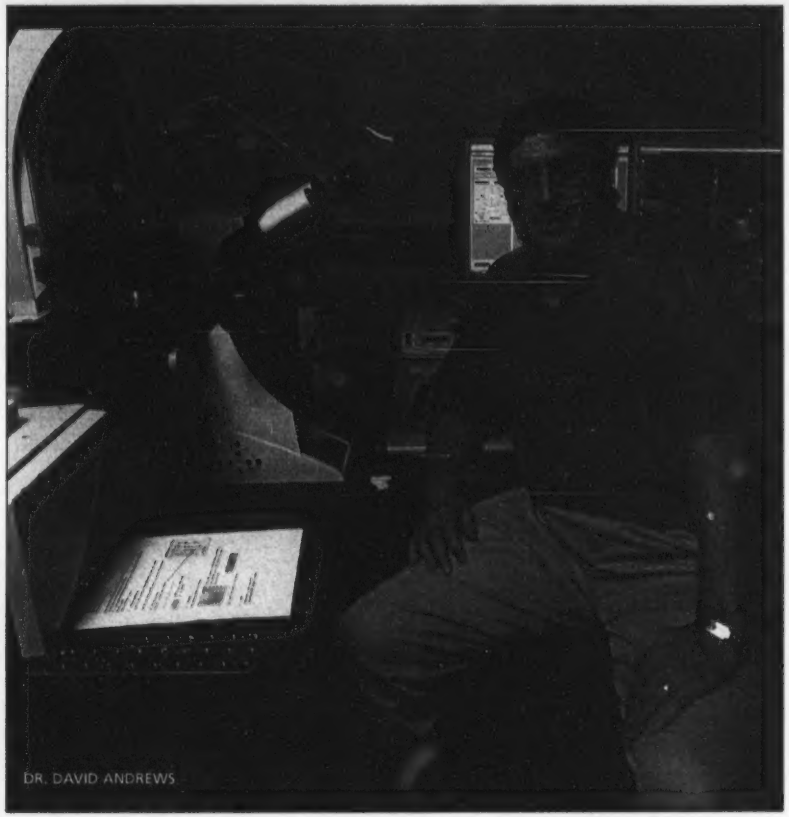
"[The paper's comment] inadvertently provides an extremely accurate definition of contemporary mathematics itself. Stretching as far back as the Egyptians and Babylonians, mathematics is by far the oldest discipline being taught at any university today...It is hard to imagine something with a more 'stately, historical exterior.'

"On the other hand, the very reason for the longevity of mathematics is its capacity to be renewed in the face of most modern problems of the day. Not being too attached to any particular application, mathematicians have been feeding their curiosity and talents with whatever challenge is current and available... So, for all that, I really like the description assigned to us by the student newspaper."



The architects sprinkled blackboards and desks throughout the hallways, creating spaces for students and faculty to collaborate.

"We ended up designing things so that people would cross paths, bump into each other."



DR. DAVID ANDREWS

renovate space for a new Biophotonics Laboratory. And even if it had been, glass walls weren't an option: many of the instruments in the lab require a darkened environment.

Andrews' first sketches of the renovation allowed scientists to move around the facility with a maximum of efficiency—and a minimum of contact. "But when it came time to deal with the architects, I re-thought that approach. We ended up designing things so that people would cross paths, bump into each other."

Scientists come from across North America to use the facility, and the need to include them in the life of the lab was also a design priority. The renovated space contains several un-assigned benches where visiting researchers can set up shop during their two- or three-day visits. Even the new floor treatment suggests interaction. Inspired by the curving arms of the international biohazard symbol, coloured arcs intersect underfoot in the hallways where scientists meet.

The new lab is working as planned, says Andrews. "People are running into each other all the time—and communicating."

About 3,500 kilometres due north of David Andrews' McMaster lab, another renovated facility clings to a desolate arctic ridge, its roof dotted with intriguing devices. The bright red box was built in 1993 as a research station, but mothballed in 2002. Now, completely renovated and re-equipped with support from the Ontario Innovation Trust, it has a new lease on life as PEARL: the Polar Environment Atmospheric Research Lab.

Unlike its glass and concrete counterparts to the south, PEARL makes few concessions to aesthetics. What attracts scientists here is extremity and isolation. "If you're going to see any changes in the atmosphere," says PEARL's director, Dr. James Drummond of the University of Toronto, "you look for them to happen in these kinds of extreme places." Even the six-month-long arctic night supports measurements that couldn't be made further south.

You won't find attractive seating areas and coffee counters here; a three-day snow-storm is all it takes to provide more than enough opportunities for scientific interaction. But while the lab is light on amenities, it's fully-equipped. "When you shut the door," says Jim Drummond, "you can imagine that you're in a lab in Toronto. We've got pretty well all the facilities you'd expect in any advanced atmospheric lab."

In its spare functionality PEARL is in some ways the quintessential machine for discovery. And what scientists here discov-

PHOTOS BY HERMANN BERG AND TOBIAS KERZENMACHER

er about climate change may have significant implications for the future of humanity. "Sure, if we don't make these measurements, nobody will die tomorrow," says Drummond. "But it's still important. If we don't understand the environment, look after it, keep it clean, it's going to get worse. That's why we need a place like this."

Whether spartan like PEARL or spectacular like MaRS, whether clad in sturdy steel or sparkling glass, this is what every Trust-supported building project is all about: the quest for understanding that leads to a better life.

In the end, success will depend on the skills and insights of the scientists involved. But tools are important. Facilities matter. "Machines for discovering in" help make discovery happen.

Unlike its glass and concrete counterparts to the south, PEARL makes few concessions to aesthetics.

Places and Projects

An overview of Trust-supported research in Ontario

For a complete and up-to-date list of Ontario Innovation Trust investments visit us at www.oit.on.ca

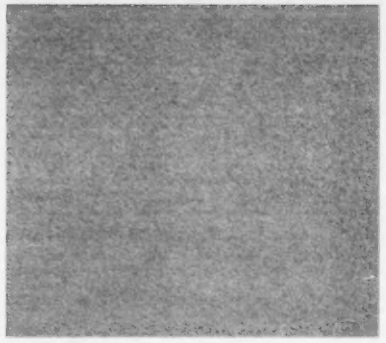
Ontario Innovation Trust Investments 1999 – 2006

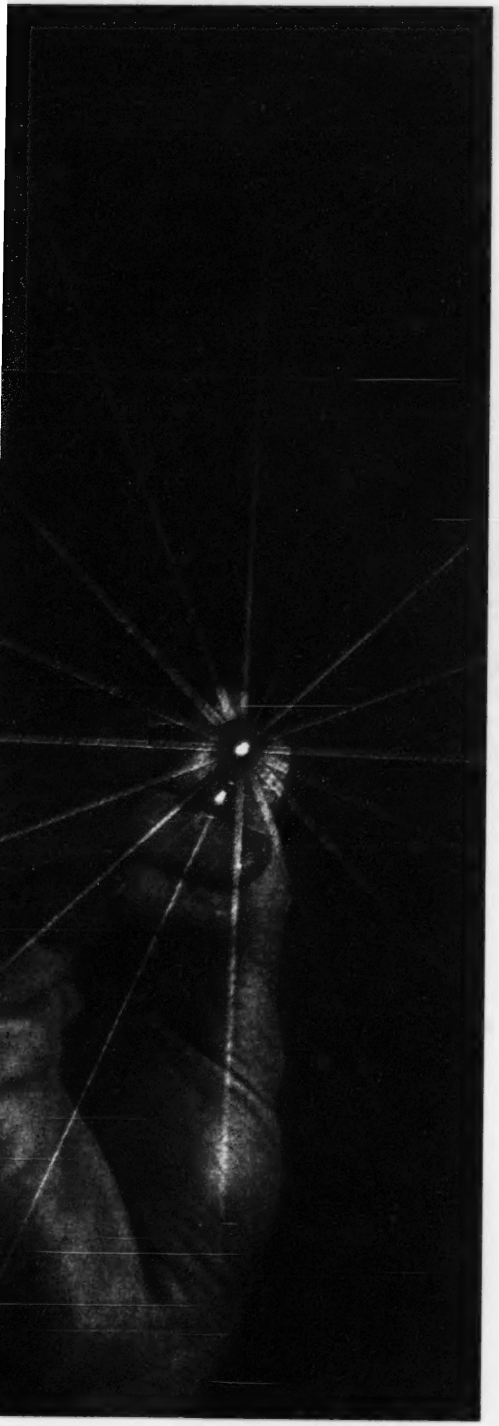
CITY	INSTITUTION	NUMBER OF OTHER FUNDING PARTNERS	NUMBER OF PROJECTS	TOTAL PROJECT COST	OIT FUNDING
Barrie	Georgian College	5	1	$1,161,469	$464,588
Belleville	Loyalist College	2	1	$459,300	$183,720
Guelph	University of Guelph	150	93	$147,433,518	$53,687,338
Hamilton	McMaster University	200	138	$189,477,974	$64,138,427
Hamilton	Mohawk College	5	2	$429,248	$171,345
Hamilton	St. Joseph's Hospital	2	2	$28,156,836	$11,262,736
Kingston	Queen's University	117	101	$230,801,690	$66,804,893
Kingston	Royal Military College of Canada	11	6	$5,689,479	$1,702,272
Kitchener	Conestoga College	10	2	$2,612,504	$920,648
London	Fanshawe College	8	1	$619,360	$243,230
London	Lawson Health Research Institute	3	1	$9,247,734	$2,864,000
London	London Health Sciences Centre	3	1	$7,992,143	$2,818,062
London	London Regional Cancer Centre	2	1	$820,000	$211,500
London	Robarts Research Institute	3	4	$26,085,008	$8,624,260
London	University of Western Ontario	170	116	$277,351,649	$90,261,215
North Bay	Nipissing University	1	1	$418,203	$166,646
Oakville	Sheridan College	5	4	$4,617,016	$1,694,992
Ottawa	Algonquin College	5	3	$2,881,392	$1,045,482
Ottawa	Carleton University	113	50	$121,290,826	$37,608,466
Ottawa	University of Ottawa	154	98	$212,166,283	$73,058,559
Peterborough	Sir Sanford Fleming College	5	2	$2,651,218	$1,060,487
Peterborough	Trent University	17	17	$20,088,473	$5,573,252
Sarnia	Lambton College	5	1	$1,806,964	$722,786
Sault Ste. Marie	Sault College	22	4	$4,659,459	$1,827,851
St. Catharines	Brock University	33	24	$17,872,261	$5,499,406
St. Catharines	Niagara College	11	6	$4,542,752	$1,675,253
Sudbury	Laurentian University	35	19	$9,341,663	$3,483,959
Thunder Bay	Confederation College	8	1	$692,000	$276,800
Thunder Bay	Lakehead University	28	20	$12,564,055	$3,869,347
Toronto	Baycrest Centre for Geriatric Care/ Rotman Research Institute	2	1	$31,089,517	$10,712,000
Toronto	Centennial College	4	1	$707,700	$284,930
Toronto	Explorer Research Institute	23	1	$25,000,000	$10,000,000
Toronto	Humber College	19	1	$1,747,900	$698,900
Toronto	Mount Sinai Hospital	25	8	$93,129,740	$35,246,997

CITY	INSTITUTION	NUMBER OF OTHER FUNDING PARTNERS	NUMBER OF PROJECTS	TOTAL PROJECT COST	OIT FUNDING
Toronto	Ryerson University	37	25	$8,787,544	$3,433,018
Toronto	Seneca College	11	4	$3,627,587	$1,243,774
Toronto	St. Michael's Hospital	7	2	$8,878,207	$3,520,595
Toronto	Sunnybrook Health Sciences Centre	17	4	$42,308,229	$16,561,292
Toronto	The Hospital for Sick Children	3	5	$31,636,872	$10,522,437
Toronto	University Health Network	7	7	$72,312,480	$23,024,995
Toronto	University of Toronto	251	263	$546,919,868	$206,498,126
Toronto	York University	107	51	$40,673,835	$15,210,768
Waterloo	Perimeter Institute for Theoretical Physics	3	1	$21,788,010	$5,624,892
Waterloo	University of Waterloo	165	88	$125,433,053	$45,594,725
Waterloo	Wilfrid Laurier University	21	26	$16,572,452	$6,574,321
Windsor	University of Windsor	39	43	$22,826,581	$8,040,750
			1,251	**$2,437,370,052**	**$844,714,040**

Ontario Innovation Trust Investments 2005 – 2006

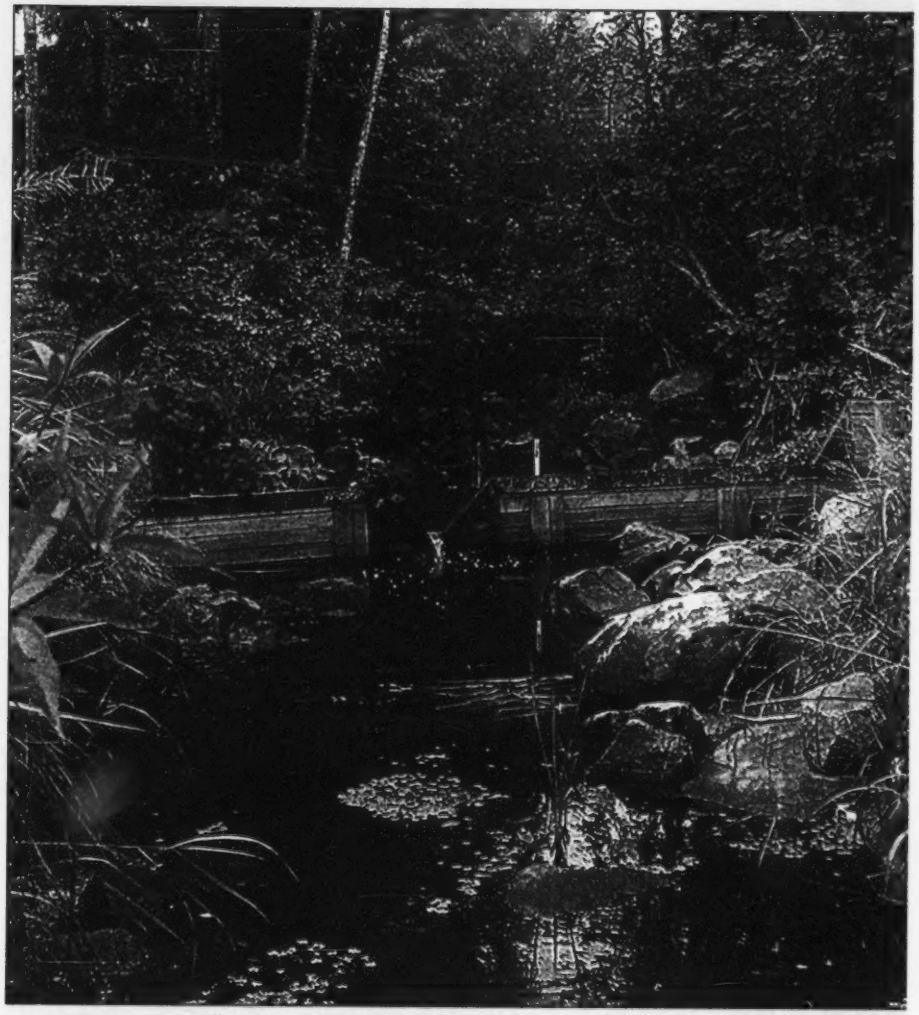
CITY	INSTITUTION	PROJECT TITLE	PRINCIPAL INVESTIGATOR	TOTAL PROJECT COST	OIT FUNDING
St Catharines	Niagara College	Mapping Real World Traffic into VR (Virtual Reality)	Mike Duncan	$340,128	$114,783
St Catharines	Niagara College	Use of Photonic Technologies to Control Disease Spread in Greenhouse Production	Olga Piedrahita	$410,527	$163,212
Toronto	Seneca College	Predictive Modeling of Failure Mechanisms in Electronics Equipment Correlating HALT Methodology with Traditional MTBF Lifetesting Techniques	Roderick Turner	$601,100	$240,440
Hamilton	Mohawk College	Instrumentation for Modern Foundry Technologies Institute	Brad Bowman	$148,386	$59,000
				$1,500,141	**$577,435**

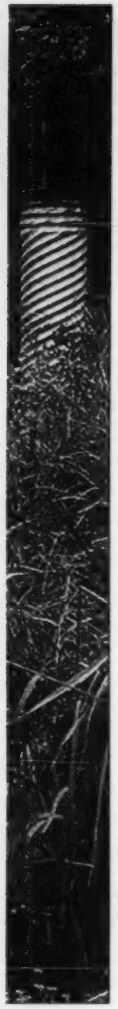




Resources, Research and Results

The Ontario Innovation Trust is providing infrastructure resources for 1,251 research projects across Ontario. Here's a brief sampling of the results of those investments...





Divining a Forest's Future

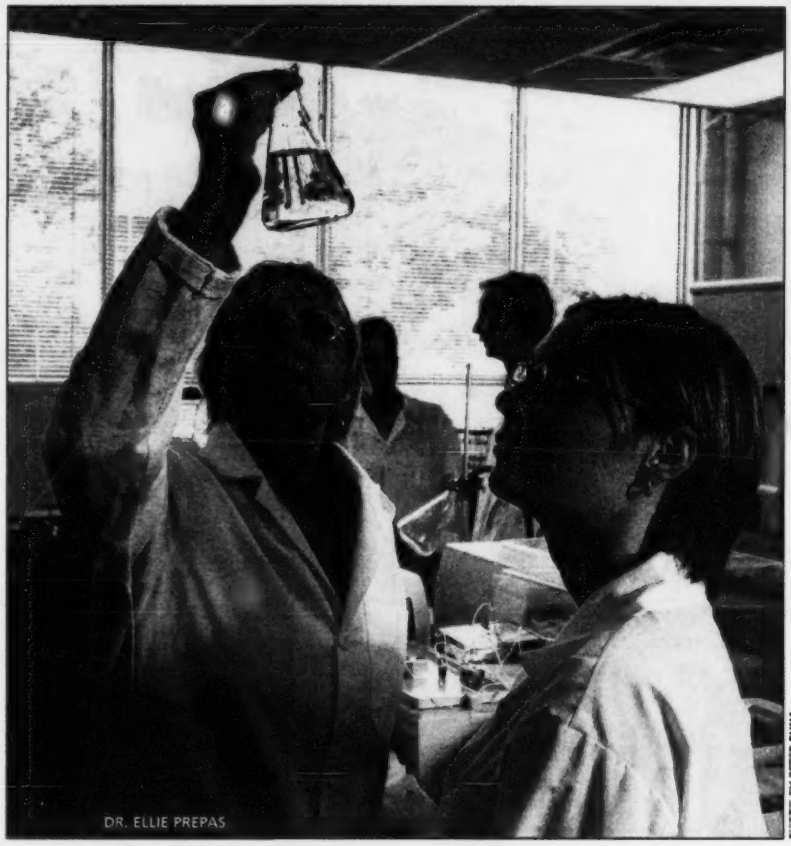
Good forest management depends on seeing the future. Lakehead University researcher Ellie Prepas is developing software that helps make it possible.

Dr. Ellie Prepas is looking into forest streams in northern Ontario, and seeing 200 years into the future.

Dr. Prepas and her team have installed data-collecting instrumentation and small control structures at 10 remote sites. The equipment enables them to gather highly accurate information about flow rates and water temperature in the streams under varying conditions, as well as levels of suspended solids, and the nutrients phosphorus and nitrogen.

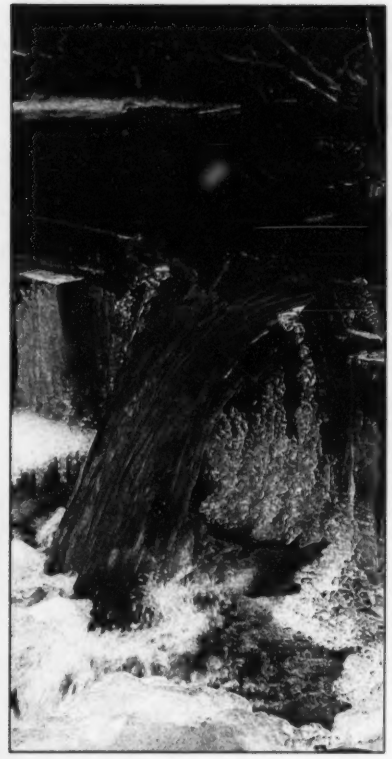
Data from the 10 sites is crucial to the creation of a piece of software that will enable the development of very long-term forest management plans.

At the heart of the application will be a model that reflects all the key dynamics of a northern Ontario forest watershed—a term that refers to any area drained by a single system of streams and rivers. The model is based on information from the stream sites as well as weather data and observations of soil, vegetation and key indicator animal species. Forestry companies and government regulators will be able to plug differing harvest scenarios covering periods of up to 200 years into the application, and see what the long-term environmental effects are likely to be.



DR. ELLIE PREPAS

PHOTO BY PETER PUNA



At the heart of the application will be a model that reflects all the key dynamics of a watershed.

PROJECT: Infrastructure for Watershed Integrated Nutrient Study Sites in the Boreal Forest
INSTITUTION: Lakehead University
RESEARCH SECTOR: Environment
PRINCIPAL INVESTIGATOR: Ellie Prepas
TRUST INVESTMENT: $365,696
ONTARIO RESEARCH FUND INVESTMENT: $164,991
CANADA FOUNDATION FOR INNOVATION INVESTMENT: $530,687
TOTAL RESEARCH INVESTMENT FROM ALL SOURCES: $1,340,752

Supercritical Squeeze

Carbon-dioxide can push valuable extracts out of plant materials. Now Kari Kramp at Loyalist College is pushing the technology in new directions.

"This was a storage room," Kari Kramp says with a sweep of her arm. "Now it's a state-of-the-art lab." The room in question contains a gleaming collection of stainless steel tanks, connecting pipes and valves. To the initiated, this is a supercritical CO_2 extractor—a machine that works something like a high-tech coffee

The method uses CO_2, heated and pressurized so that it takes on the properties of both a liquid and a gas.

KARI KRAMP

maker to extract valuable substances from plant material.

Before the advent of the new technology, extraction processes used chemical solvents, which often reacted with the raw materials involved to produce potentially harmful residues. The supercritical method uses CO_2 as a solvent, heated and pressurized to the point that it takes on the properties of both a liquid and a gas—a "supercritical" state. The gas, unlike chemical solvents, doesn't react, so the extracts are purer.

The Ontario Innovation Trust helped fund the purchase of two extractors for the new lab—a small unit and a mid-sized one. The two extractors enable Kramp and her colleagues to conduct experiments on small samples, then scale up to almost commercial quantities.

Supercritical extraction has been used for some time to make de-caffeinated coffee, but the Loyalist researchers are working with several private partners to take the technology in new directions, focusing on natural food supplements and plant-based pharmaceuticals. Potential products include a natural anti-viral extracted from a plant that grows locally—and a heart-healthy fatty acid supplement from Labrador shrimp.

PROJECT: Produce and Evaluate Botanical Extracts made with CO_2 Technology
INSTITUTION: Loyalist College
RESEARCH SECTOR: Life Sciences
PRINCIPAL INVESTIGATOR: Kari Kramp
TRUST INVESTMENT: $183,720
TOTAL RESEARCH INVESTMENT FROM ALL SOURCES: $459,300

Injecting Hope

Some patients with cardiovascular disease don't have any treatment options. But gene therapy pioneered by Duncan Stewart at St. Michael's Hospital may inject new hope.

"Some patients are just out of luck in terms of our standard toolbox." Dr. Duncan Stewart is talking about the 15 percent of people with cardiovascular disease who, for one reason or another, aren't candidates for the usual procedures. Now, however, a new approach pioneered by Dr. Stewart at St. Michael's Hospital in Toronto may offer hope for this group of patients.

The procedure involves using a special catheter to inject genes specifically related to vessel growth directly into the heart. The theory is that the genes will incorporate into heart cells and then "turn on," producing a protein that stimulates the development of healthy blood vessel tissue.

The results of a study of the treatment, involving 110 Canadians, won't be unveiled until the end of 2006. Even Dr. Stewart is in the dark: to ensure its validity, the study was arranged so that no one knows who received the actual gene therapy and who received a "placebo" injection. Early indications, however, are encouraging. Several patients from the study have shown a marked—and in some cases spectacular—improvement. Dr. Stewart refuses to speculate on the outcome, but does admit to a growing sense of anticipation.

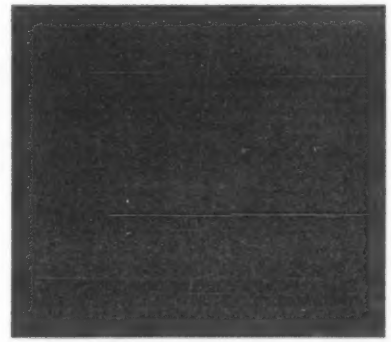
In the meantime, he and his colleagues are building on what they've learned during the three-year study—and on new developments in genetic science—to tackle another challenge: high blood pressure in the vessels that serve the lungs.

PROJECT: Cardiovascular Gene Therapy Initiative
INSTITUTION: St. Michael's Hospital
RESEARCH SECTOR: Health Sciences
PRINCIPAL INVESTIGATOR: Duncan Stewart
TRUST INVESTMENT: $1,685,107
CANADA FOUNDATION FOR INNOVATION INVESTMENT: $1,685,107
TOTAL RESEARCH INVESTMENT FROM ALL SOURCES: $4,212,766

DR. DUNCAN STEWART (LEFT), WITH ONE OF THE PATIENTS IN THE GENE THERAPY STUDY, MR TERENCE DEANE (SEATED), AND CLINICIAN SCIENTIST DR. MICHAEL KUTRYK

PHOTO BY YIDAN ZHAO

Several patients have shown a marked—and in some cases spectacular—improvement.



Why Doesn't Every Good Boy Do Fine?

Methods for learning the piano abound. Now University of Ottawa researcher Gilles Comeau is applying advanced science to discover what really works.

Researchers are exploring the delivery of remote piano lessons by video-conferencing.

PROJECT: Piano Pedagogy Research Laboratory
INSTITUTION: University of Ottawa
RESEARCH SECTOR: Arts and Letters
PRINCIPAL INVESTIGATOR: Gilles Comeau
TRUST INVESTMENT: $494,657
CANADA FOUNDATION FOR INNOVATION INVESTMENT: $494,657
TOTAL RESEARCH INVESTMENT FROM ALL SOURCES: $1,236,642

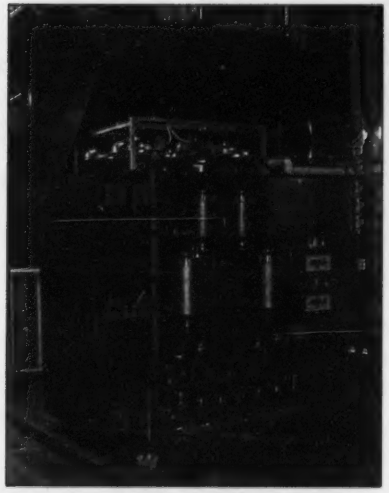
Piano instruction abounds with methods and mnemonics. But while devices like "Every Good Boy Does Fine" (the lines on the treble staff) may be helpful, learning the piano is a big challenge for students. The majority give up during the first year.

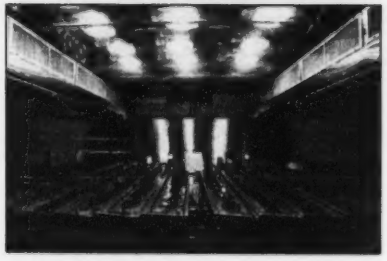
To find out why, Dr. Gilles Comeau at the University of Ottawa has put together the world's first lab focused exclusively on the scientific study of piano pedagogy. The lab brings together researchers with expertise in a variety of areas, from motivational psychology to bioengineering, and is equipped with suite of high-tech tools. Video cameras in the lab's studio are networked with digitally-enabled grand pianos, electronic keyboards and sophisticated software to track and analyze every aspect of the learning experience. Researchers are even taking advantage of the high-tech environment to explore the possibilities of delivering remote piano lessons by broadband video-conferencing.

Why pursue scientific research on learning to play the piano? Comeau can suggest a variety of reasons, including the large economic investment Canadian families make every year in music lessons. But he also has a broader perspective on the lab's contribution. "Every time we study how learning happens in one field, it has impacts in others as well."

DR GILLES COMEAU

"Our program is 'pulled' by space exploration, but 'driven' by terrestrial benefits."





Green Space

How will the first explorers on Mars survive so far from earth? Dr. Mike Dixon at the University of Guelph is working on a home-grown solution.

"If space exploration is going to advance to Mars," says Dr. Mike Dixon of the University of Guelph, "we need to develop self-sustaining life support systems. Given the distance from Earth, it's inconceivable that we could send supplies."

The answer may involve adding a touch of green to the red planet. Dr. Dixon's team at the University of Guelph is experimenting with pressurized plant growth chambers that may one day allow the first Canadian horticultural Mars mission specialist to produce food and oxygen, cycle fresh water and remove carbon dioxide from the mission's air supply. The chambers, which are about two and a half metres tall, have stainless steel walls and thick glass roofs. Inside, a computer-automated system allows scientists to control watering, humidity, carbon dioxide levels and atmospheric pressure.

"Right now we're working on finding the lowest atmospheric pressure in which plants can grow," says Dr. Dixon. "The lower the pressure, the less massive the growing system on Mars will have to be and the less energy and money it will cost to get it there."

The University of Guelph program is already producing benefits right here on earth. One example: Air Quality Solutions Inc., a spin-off company developed through a Martin Walmsley Fellowship from the Ontario Centres of Excellence, has applied the research in creating a building air filtration system partially made from plants. "Our program is 'pulled' by the technical requirements of space exploration," says Dr. Dixon, "but it's 'driven' by technology transfer to industry and terrestrial benefits."

PROJECT: Biological Systems for Terrestrial and Space Applications
INSTITUTION: University of Guelph
RESEARCH SECTOR: Life Sciences
PRINCIPAL INVESTIGATOR: Mike Dixon
TRUST INVESTMENT: $3,150,000
CANADA FOUNDATION FOR INNOVATION INVESTMENT: $3,150,000
TOTAL RESEARCH INVESTMENT FROM ALL SOURCES: $7,875,000

DR MIKE DIXON

Virtual Plurality

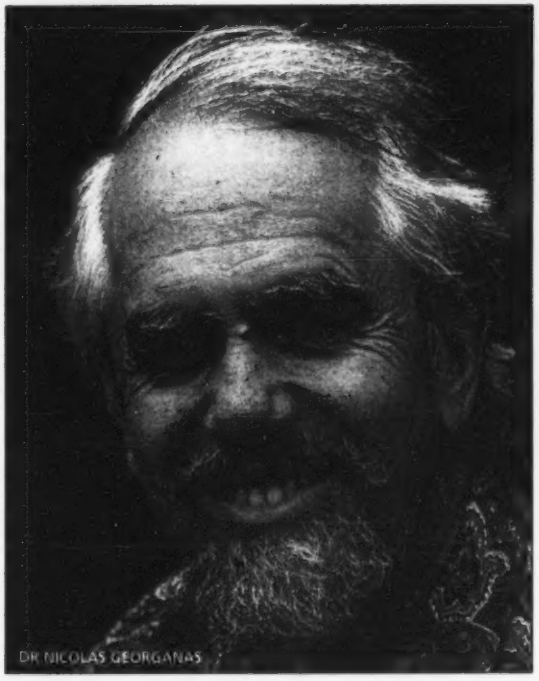
Virtual reality isn't a solo experience anymore. And University of Ottawa researcher Nicolas Georganas wants to make it more shared than ever.

It can get downright crowded in cyberspace these days. Ask any high-tech warrior hunting down aliens in the subterranean corridors of a networked on-line game.

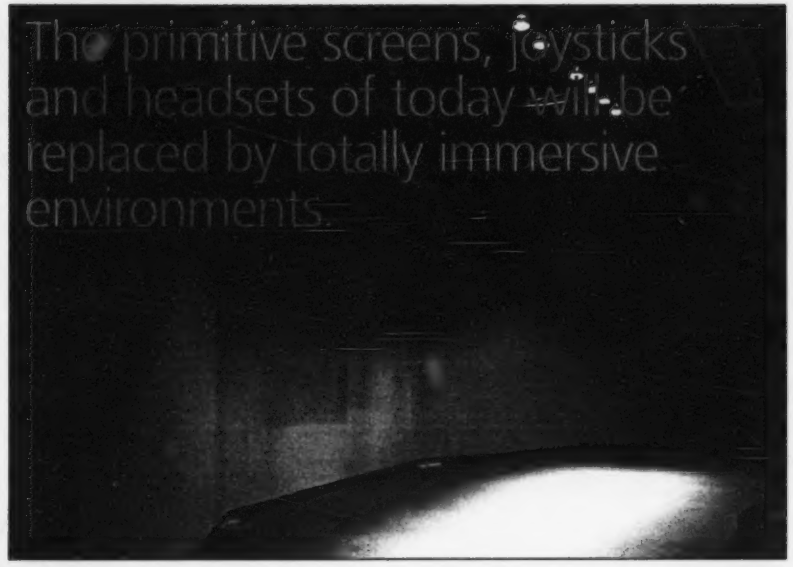
Sharing a virtual reality environment with others, however, still takes a healthy dose of imagination. And that's where Dr. Nicolas Georganas wants to make a difference. Georganas is director of the University of Ottawa's DISCOVER lab, and the focus of much of his research is on creating what he calls "distributed and collaborative virtual environments."

He sees a day, not too far in the future, when the relatively primitive screens, joysticks and headsets of today will be replaced by totally immersive environments that will make it possible for participants from all over the world to gather in fully-realized sensory environments. In these cyber-settings they'll be able to see and physically interact with each other—or at least with each other's "avatar" manifestations—as well as communicate and manipulate objects together.

The possibilities go far beyond hunting aliens. Researchers at the DISCOVER lab are already working on prototypes of collaborative virtual training environments for tasks as diverse as replacing electronic components and performing eye surgery.



DR. NICOLAS GEORGANAS



PROJECT: (SITADEL) School of Information Technology Advanced Engineering Research Laboratories
INSTITUTION: University of Ottawa
RESEARCH SECTOR: Engineering
PRINCIPAL INVESTIGATOR: Nicolas Georganas
TRUST INVESTMENT: $7,034,080
TOTAL RESEARCH INVESTMENT FROM ALL SOURCES: $17,585,200

Extreme conditions at the earth's poles mean that global trends tend to show

North of Mars

Our atmosphere is changing. And James Drummond of the University of Toronto is studying the arctic sky for clues about what comes next.

How isolated is PEARL—the Polar Environment Atmospheric Research Laboratory? "Well," explains the lab's director, Dr. James Drummond, "let's just say that the place on Devon Island where people run a Mars simulation is south of us."

PHOTOS BY HERMANN BERG AND TOBIAS KERZENMACHER

The remote location—at the northern end of Ellesmere Island in the Canadian arctic, about 1,100 kilometres from the North Pole—makes PEARL an ideal place for measuring what's happening to the earth's atmosphere. No nearby human activity can skew observations, and extreme conditions at the earth's poles mean that global trends tend to show up there first.

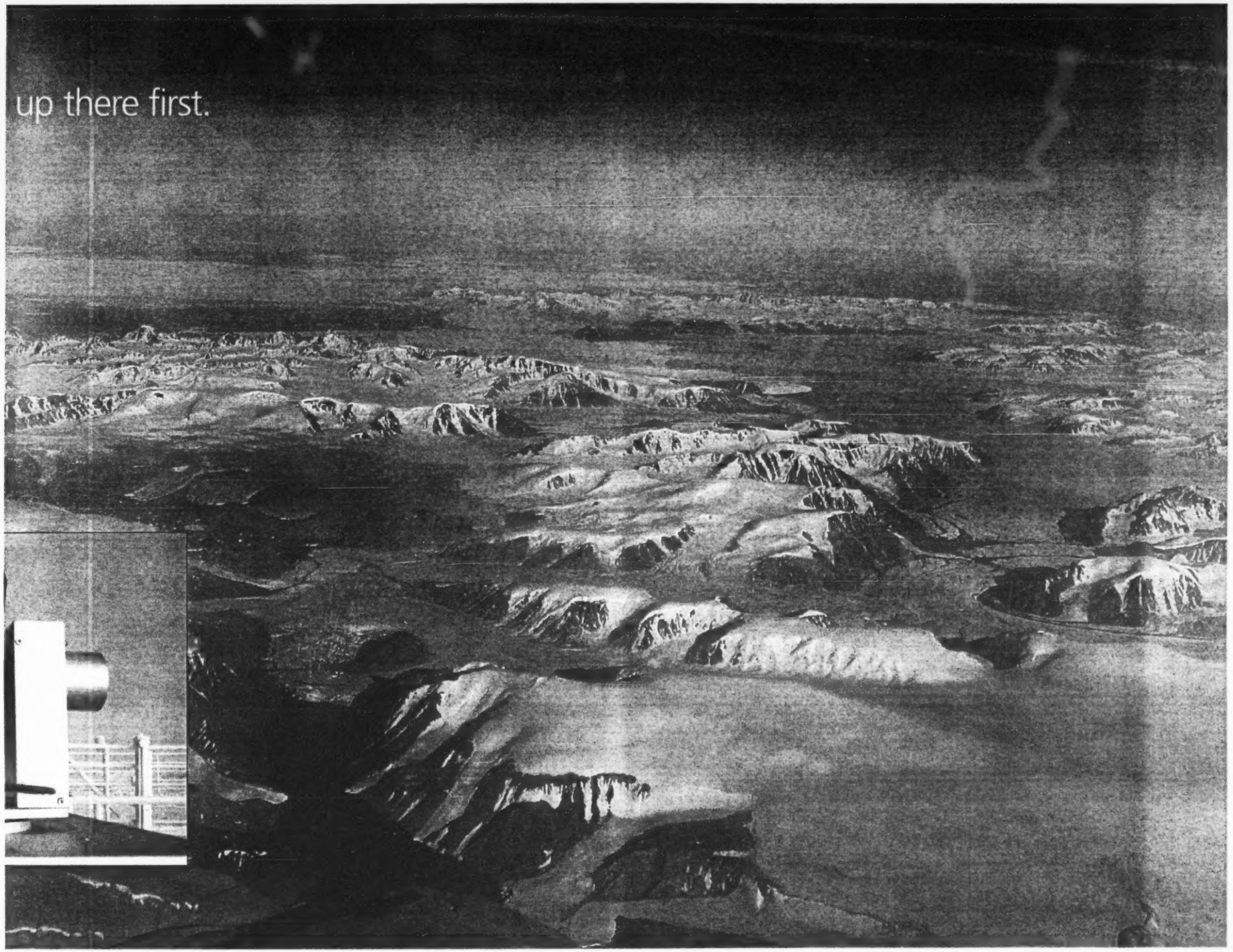
DR JAMES DRUMMOND

As an example, Jim Drummond points to the discovery of the Antarctic ozone hole in 1980s, which revealed a global reduction in the earth's ozone layer. "We saw that happening as a result of one of those long-lived polar vortexes, a sort of chemical cauldron that had substantial differences from anything we'd see elsewhere."

The discovery of the ozone hole is also an example of why the painstaking observations of his team are important. He points out that researchers didn't predict the southern ozone hole—they found it, as part of an on-going program of atmospheric research similar to the work at PEARL.

"We're measuring the atmosphere and trying to understand what's going on and how it's changing. We can't predict reliably what the next environmental issue is going to be. We're going to have to discover it."

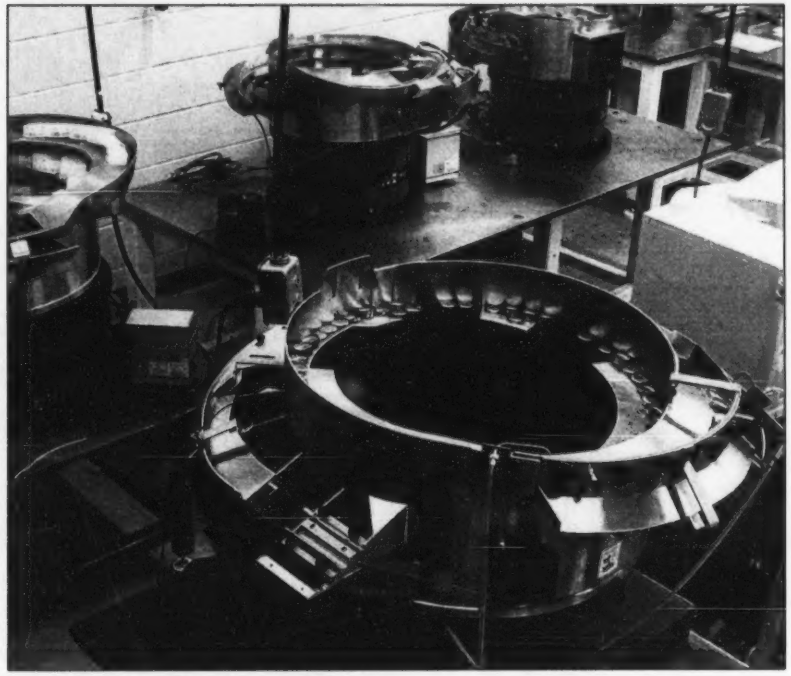
PROJECT: The Polar Environment Atmospheric Research Laboratory
INSTITUTION: University of Toronto
RESEARCH SECTOR: Environment
PRINCIPAL INVESTIGATOR: James Drummond
TRUST INVESTMENT: $1,807,730
ONTARIO RESEARCH FUND INVESTMENT: $815,590
CANADA FOUNDATION FOR INNOVATION INVESTMENT: $3,293,176
TOTAL RESEARCH INVESTMENT FROM ALL SOURCES: $8,721,306


up there first.

INDUSTRIAL PARTS FEEDERS—BOTH PROTOTYPES AND PRODUCTION MODELS—AWAIT TESTING AT CONESTOGA.

Industrial Revolutions

Industry is always looking for better ways to do things. Leonid Sloutsky and his team at Conestoga College are finding them.



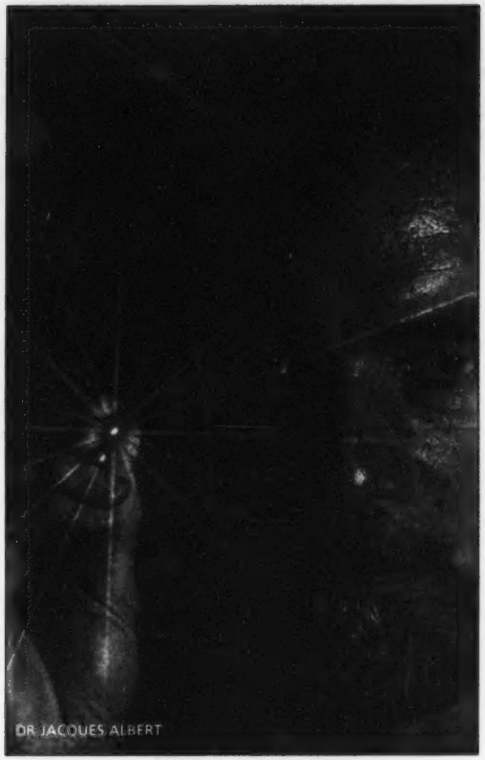
It turns out that the industrial revolution still has a little way to go. Cutting and sewing gloves, for instance, is almost always a hand operation, even today. That may well change, however, thanks to the efforts of researchers at the Conestoga College Manufacturing and Automation Centre. They've completed the first phase of developing new technology to automate the process. "Our group has been trying to solve some of the sub-problems involved," explains the principal researcher at the Centre, Dr. Leonid Sloutsky, "so we can build the whole system. It's going to be very complex, with lots of sensors and control features."

The Centre is well-equipped to take on these kinds of tough problems in manufacturing. An investment by the Ontario Innovation Trust has provided the College with a versatile industrial robot, a rapid prototyping machine and other advanced hardware and software.

Also under investigation at Conestoga: ways to improve the ubiquitous hoppers that feed small parts to assembly machines; and new technology for injection molding. It's all part of the College's commitment to keep the industrial revolution(s) happening.

PROJECT: Applied Research Centre for Integrated Advanced Manufacturing Technologies
INSTITUTION: Conestoga College
RESEARCH SECTOR: Engineering
PRINCIPAL INVESTIGATOR: Leonid Sloutsky
TRUST INVESTMENT: $489,648
TOTAL RESEARCH INVESTMENT FROM ALL SOURCES: $1,484,504

The Centre is well-equipped to take on tough problems in manufacturing.


DR JACQUES ALBERT

Stress, Senses and Simulations

A sampler of research at Carleton University

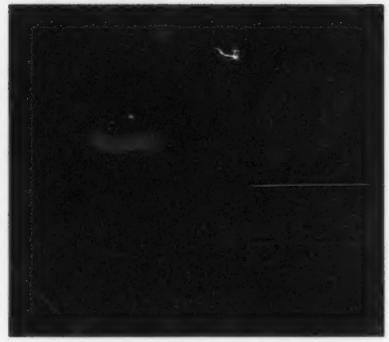
Success Through Failure

Dr. Jacques Albert

"You can have the greatest device, but in order for it to be used—especially in telecommunications—it has to withstand very rigorous environments for between 15 and 25 years."

Dr. Jacques Albert, an electronics professor at Carleton, concentrates his research on new ways to send signals with laser light. His work could mean big benefits for Canadians—faster Internet connections at cheaper prices. But the new photonic devices have to be capable of performing fault-free for long periods.

"We really stress them hard," says Albert, "to bring them to the point of failure. That way, we can test their reliability."



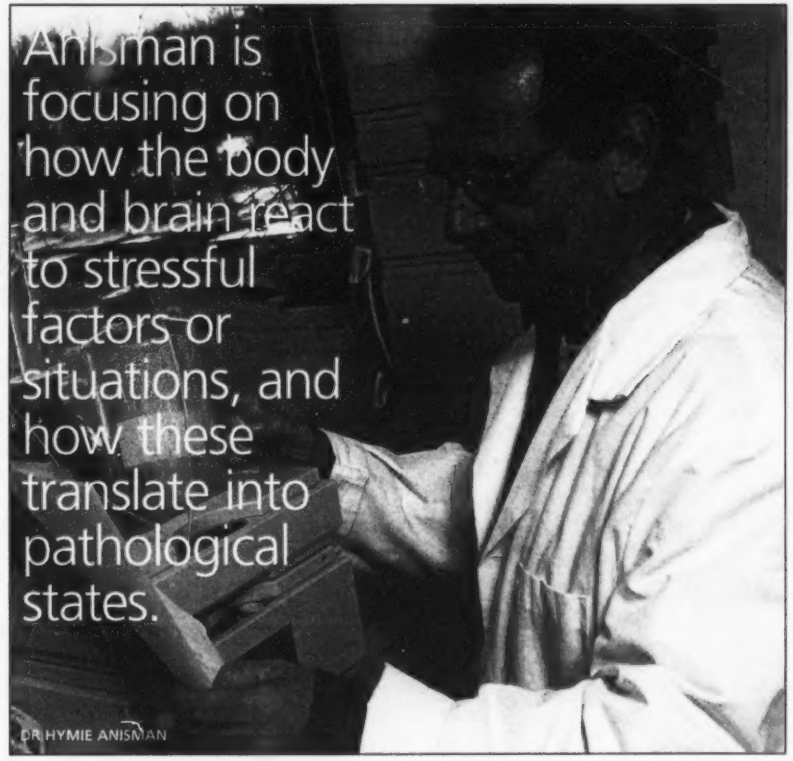
And Speaking of Stress...

Dr. Hymie Anisman

Carleton's Dr. Hymie Anisman also focuses on stress—but the human kind. A psychology professor at the university, he's exploring how stress and stressful events can lead to depression—a disorder that affects almost three million Canadians at any given time, according to the Mood Disorders Association of Ontario.

Anisman is focusing on how the body and brain react to certain stressful factors or situations, and how these responses translate into pathological states. He's also looking at why some people are very resilient when faced with different stressors, while others are more at risk.

"What we do is try to figure out how and why stress has these effects, who's most vulnerable, and what we can do about it."


Anisman is focusing on how the body and brain react to stressful factors or situations, and how these translate into pathological states.
DR HYMIE ANISMAN

Scents and Sensibilities

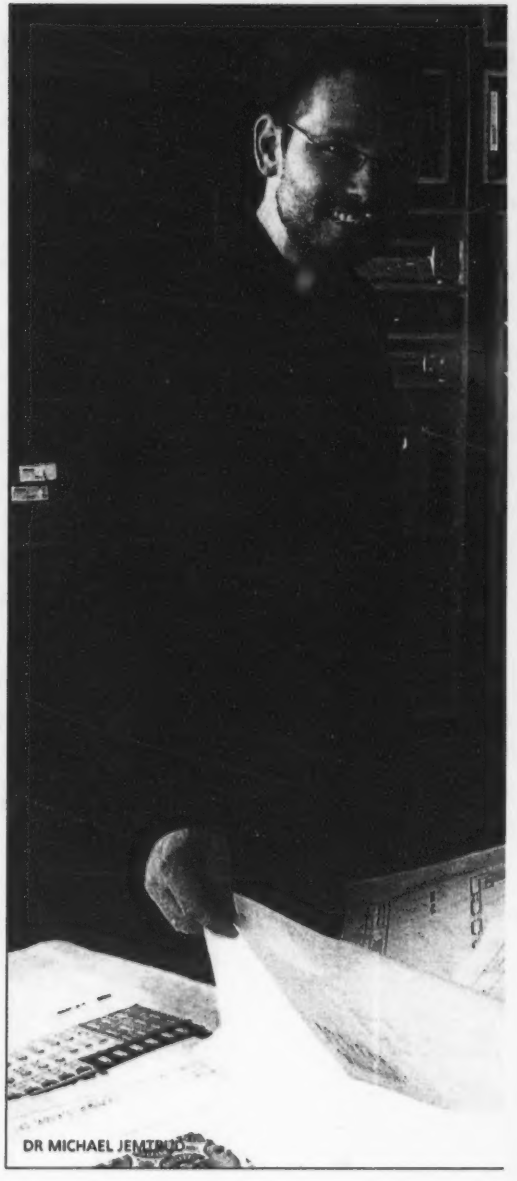
Dr. Adrian Chan

Dr. Adrian Chan is demonstrating that science and the senses go hand in hand. An assistant professor in Carleton's Department of Systems and Computer Engineering, Chan has helped develop an electronic "nose" to sniff out bacteria like the kind that causes strep throat. Using odour to determine whether a patient is healthy or infected, his hand-held instrument will enable doctors to diagnose diseases without time-consuming blood work.

Chan is also exploring the area of touch, seeking to improve signal quality between living muscle and prosthetic devices, leading to better control and more accuracy. His goal is to copy the signals transmitted by arm muscles when the brain commands a hand to open, close or rotate—and use them to control a prosthetic device.

"We're looking for ways to make prosthetics more intuitive for the user."

DR ADRIAN CHAN



DR MICHAEL JEMTRUD

Reconstructing the Past

Dr. Michael Jemtrud

Digital reconstruction is the wave of the future, allowing people to view and revisit historical structures or buildings that may be long gone. And Carleton's Dr. Michael Jemtrud is helping to bring that future one step closer.

Jemtrud, an assistant professor in the School of Architecture, is also head of the new Carleton Immersive Media Studio (CIMS), where a new Digital Architectural Reconstruction Program was launched last year.

"The program's primary content-based project is the reconstruction of the Chapel of the Convent of Our Lady of the Sacred Heart," Jemtrud explains. "The building was razed in 1972 and the interior of the Chapel was reassembled in the National Gallery of Canada."

The reconstruction of the architecturally unique Ottawa original—built in 1887 and also known as "Rideau Chapel"—will be posted on a web site, and will feature animations and a totally interactive environment.

The virtual reconstruction will be posted on a web site, and will feature animations and a totally interactive environment.

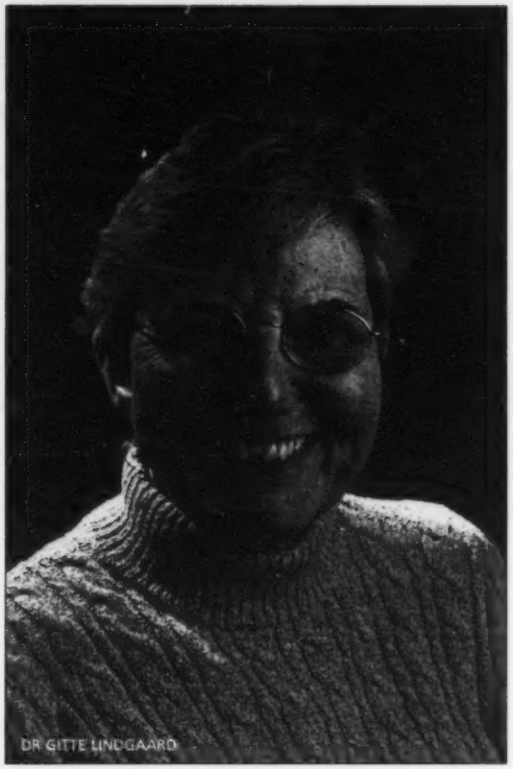
Utility, Usability and Users

Dr. Gitte Lindgaard

There's a lot of talk these days about "user-experience," but Dr. Gitte Lindgaard is turning the talk into action. She came to Carleton in 2000 to be the inaugural holder of North America's first Chair in User-Centred Design.

The position is unique because it involves bringing many fields together including computer science, psychology, linguistics, and architecture, among others. Dr. Lindgaard's research has two foci: utility, which has to do with delivering the right information at the right time in the right format; and usability, which has to do with the users' knowledge of where they came from, where they're going and what they're doing next.

Most recently, Lindgaard has begun to play with multi-sensory computing, exploring how the use of more than one sensory channel can facilitate user performance.



DR GITTE LINDGAARD

PROJECT: Advanced Photonic Components Fabrication, Testing, and Characterization Laboratory
INSTITUTION: Carleton University
RESEARCH SECTOR: Engineering
PRINCIPAL INVESTIGATOR: Jacques Albert
TRUST INVESTMENT: $302,734
CANADA FOUNDATION FOR INNOVATION INVESTMENT: $302,734
TOTAL RESEARCH INVESTMENT FROM ALL SOURCES: $871,657

PROJECT: Neurochemical and Behavioural Assessment of Stressor & Cytokine Effects
INSTITUTION: Carleton University
RESEARCH SECTOR: Health Sciences
PRINCIPAL INVESTIGATOR: Hymie Anisman
TRUST INVESTMENT: $149,624
CANADA FOUNDATION FOR INNOVATION INVESTMENT: $149,624
TOTAL RESEARCH INVESTMENT FROM ALL SOURCES: $379,224

PROJECT: Biomedical Engineering Sensors and Signals Laboratory
INSTITUTION: Carleton University
RESEARCH SECTOR: Engineering
PRINCIPAL INVESTIGATOR: Adrian Chan
TRUST INVESTMENT: $215,041
CANADA FOUNDATION FOR INNOVATION INVESTMENT: $215,041
TOTAL RESEARCH INVESTMENT FROM ALL SOURCES: $537,605

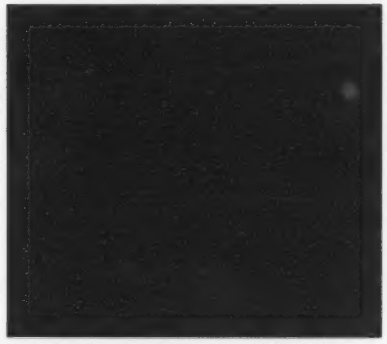
PROJECT: Architectural Multimedia Studio
INSTITUTION: Carleton University
RESEARCH SECTOR: Engineering
PRINCIPAL INVESTIGATOR: Michael Jemtrud
TRUST INVESTMENT: $196,888
CANADA FOUNDATION FOR INNOVATION INVESTMENT: $196,888
TOTAL RESEARCH INVESTMENT FROM ALL SOURCES: $492,321

PROJECT: Human Computer Interaction
INSTITUTION: Carleton University
RESEARCH SECTOR: Arts and Letters
PRINCIPAL INVESTIGATOR: Gitte Lindgaard
TRUST INVESTMENT: $1,889,373
CANADA FOUNDATION FOR INNOVATION INVESTMENT: $1,889,373
TOTAL RESEARCH INVESTMENT FROM ALL SOURCES: $4,723,431

Partners in Discovery

Private and Public Partnerships and the Ontario Innovation Trust

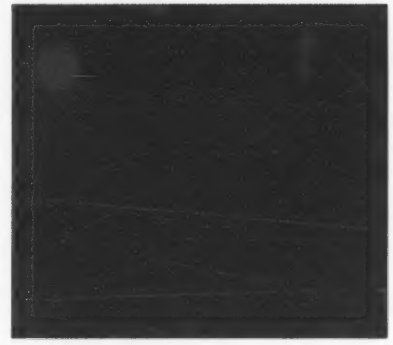
Over 1,000 public and private partners play an important role in research funded by the Ontario Innovation Trust. In most cases, institutions and their partners provide 20 percent of the funding, with the balance of research costs being shared evenly by the Trust and the Canada Foundation for Innovation.



Note: These investing partners were identified by applicants. As research projects progress, additional partners will have been added. The Ontario Innovation Trust apologizes to partners who may have been left off this list.

3-Soft • Agriculture and Agri-Food Canada • ABB Bomem Incorporated • ABB Extrel • ABI - Applied Biosystems • ABS Manufacturing • AC Radiographic • ACA TMetrix • Academic Development Fund • Accelrys • Accurion • AccuScan Instruments • ACS Petroleum Research Fund • Actimetrics • Acuson • AD Instruments • ADCOM • Adobe • Adrian Brown Consulting Limited • Advanced Biotech • Advanced Presentation Tech • Advanced Science Design • AEATechnologies • AEI Technologies • AeroTech Positioning Systems • Affymetrix • AGCO Allis • AGIE Limited • Agilent Technologies • Agricultural Electronics Corporation • Agronix Incorporated • Air Canada • Alberta Environmental Protection • Alberta Research Council • Alcatel • Alfa Medical • Algorithmics Solutions Gmbh • Alias/Wavefront • Allentown • Allpatech Industries • Aloka • ALPAC • Alpha Controls • Alpha Technologies • Althexis Essential Therapeutics • Aluminum Company of Canada (ALCAN) • Alzheimer Society of Ontario • AMA TMetrix • American Sigma Ltd. • Amersham Biosciences • Amersham Health Incorporated • Amersham Pharmacia • Amnis • Amphibico • AMS Coherent • Amsdell Incorporated • Anachemica • Anacom Systems Company • Analogy • Anatech Inc. • AnCare • Anchor Manufacturing Company • ANCO Engineers Inc. • Andec International Services Incorporated • Angel Computers • Anishinabek/Ontario Fisheries Research Centre • Anritsu • Ansoft Corporation • Anson Funds • APB • Apollo Photonics • Apple Canada • Applied Biosystems • Applied Electronics Limited • APS Tech • Aquaneering • Aquatic Habitats • Arbin Instruments • Archibus Incorporated • Arcturus • ARISE Technologies Corporation • Arius 3D • Ascend Instruments • Ascension Technologies • ASDI • Ashwarren International Incorporated • ASI Applied Systems • Astro Med Incorporated • ATAS • A-Tech instruments • ATI • Atlantis Scientific Incorporated • Atomic Energy of Canada Limited (AECL) • ATS RheoSystems • ATS Scientific Incorporated • Audcomp Computer Systems • Aurora Scientific Inc. • Autoclave Engineering • Autoliv Electronics • Avaya • Aventis-Pasteur • Aviv Instruments • AVW-TELAV • AXIC • Axidata • Axon Instruments • AXYZ Automation Incorporated • Aymes Medical • Bakers • Balckhauck • Barringer Instruments • BAS • Baycrest Foundation • Bayer Foundation • Bayer Incorporated • BC Hydro • BCAgencies • BCKDF • BD Biosciences • Beckman Coulter Incorporated • Becton Dickinson • Bell Canada • Beta Tek • Betatek • Biacore • Bio Rad Laboratories • BioComp Instruments, Inc • Bioetics • BioLog. Inc • Bio-Lynx Scientific • Bionetics Corporation • Bioniche Life Sciences • Biosense Webster • Biosyntech • Biothermica • Blue Newt Software Incorporated • BOC Edwards • Bolen Distributing Inc. • Botterel Fund • Bowater Pulp & Paper Canada Incorporated • Brain Innovation • Brill Academic Publishers • Brinkman Coulter Canada Ltd. • Brinkman Instruments • British Columbia Knowledge Fund • Brock Computer Store • Brookhaven Instruments • Brothers • Bruel and Kjaer • Bruker Biospin • Bruker Canada • Bruker Companies • Bubble Technologies • Buchanan Forest Products Limited • Buehler Canada • Burleigh Instruments • Burtek Systems Inc. • Bushtukah Out. • Buxco Limited • Cadence Design Systems • California Analytical • Calumet College • Cameca (SA) • CAMH Foundation • CAMM • Campbell Scientific • Canada Mortgage & Housing Corp • Canadian Blood Services • Canadian Cancer Society • Canadian Forest Services • Canadian Foundry Association • Canadian Hydrogargen • Canadian Life Technologies • Canadian Pacific Foundation • Canadian Space Agency • Can-Am Insturments Ltd. • Canalytical • Canberra Packard Canada • Cancer Care Ontario • Cancer Ontario Institute • CANMET (Natural Resources Canada) • Cannaught New Investigator Fund • Canon Canada • Canon USA • Cansel Survey Equipment • Cardiac Care Network • Cardiff • Carl Zeiss Canada Ltd. • Carson Group Inc. • Cartesian Technologies • CCR • CD Nova • Celestica Incorporated • Cellomics • Celluform Concrete Systems • Centre for Research in Earth and Space Technology (CRESTech) • Centre for Studies in FM • Centre of Mining Technology • Centre Tech.Gaz Natural • Centre-Line • CGI • Challenge Env. • Champion • Change Foundation • Chawkers Foundation • CHEO-Dept of Cardiology • Child Health Research Institute • Children's Hospital of Eastern Ontario • Chromatography Sciences Co • CIAR • CIF Corporation • CIMTEC • Cinequip • Ciphergen • CIPI • Circusoft • Cisco Systems Canada • City of Kitchener • City of Pickering • City of Welland • Civic Auxiliary • Clark-MXR • ClearTech Industries Incorporated • Climatic Testing Systems • Clinton Electronics Corporation • CNC Engineering • Cogient Corporation • Cognos Inc • Coherent Incorporated • Coherent Laser Group • Columbus Instruments • COM DEV Limited • Comercial Photocopy • Communication and Information Technology Ontario (CITO) • Compudata Systems • Compusense • Computer Hardware Services • Computer Shop • CONAC Software Corporation • CONACYT-Mexico • Conductus Incorporated • Conestoga-Rovers & Assoc. • Constant Temperature Corp • Continuum Lasers • Convergent Bioscience • Convirons • Core Microsystems • CosMos • Coulborn Instruments • COURSE • Coventor • CPI Automation • CR Younger Found • Creo • Crist Instruments • Criticare System, USA • CRS Automated Solutions • CSC Chromatography • CSIRO • CTF Systems Inc. • CTI Molecular Imaging Incorporated • CWS • Dach Asociates, UK • Daimler Chrysler Canada Incorporated • DAKO Diagnostics • Dalimar Institute • Dalimar Instruments Inc. • Dantec • Dap Technologies • Dapannet Inc • Datacomp Scientific • Defence Research Establishment • Dell Canada • Dell/Hewlett Packard • Delta Med • Department of Fisheries and Oceans • Diamed AG • Diamond and Schmitt • Diatek • Digital Instruments • Digital Technology Associates Incorporated • Dionex • Discovery Diagnostic • DNA Star • Dr. J D Adachi • Ducks Unlimited Canada • Dumanski • Dunlop Architects Incorporated • Duo Communication of Canada Limited • Dupont Canada Incorporated • Dynamix Professional Video • Dynamix Systems • ECOS, Japan • Edcom Multimedia • EGI • EISCA • Elcan Otical Tech • Elections Canada • Electrical Geodesics, Inc • ElectroLab • Electro-Medical Institute • ElectroSonic • Eli Lilly Canada Incorporated • Elkom North America • El-Mar Incorporated • EMERTEC R&D (Halifax) • Empirisoft • Empix Imaging • Enconair • Endoscope • Engin Seismology Grp. • En-Pls Inc • Entrust Incorporated • Environics Research • Environment Canada • Epson • ESBE Scientific • ESI/Standard Systems Intl. • ESPEC • ESRI Canada • European Space Agency (ESA) • Exactatherm • EXFO Burleigh • EXFO Electro Optical Engineering Incorporated • EXFO Photonics Solutions • Exploration Outfitters • Extreme Networks • Exxon Chemical • Fagnou • Fakespace Systems Incorporated • Falconbridge Limited • Father Sean O Sullivan Research Cr. • Fibics Inc. • Fieldworker Products • Filamatic • Fine Science Tools • Fire Testing Technology • Fisher Biotech • Fisher Hamilton • Fisher Scientific • FLIR Systems Canada • Float N Flag • FM: Systems • Folio Instruments • Ford • Foss North America • Fowler Kennedy Clinic Trust • Foxboro Canada • Fox-Tek • Free University, Berlin • Fugi Medical Systems • Fund.Mar Avacucho-Venezuel • Gamble Technologies • Garden Club of Toronto • Garden Instruments • Gatan Soquelec • GDS Instruments Limited • GE Canada • GE Medical Systems (GEMS) • Gemco • Gemini Positioning Systems Limited • Genemachines • Generation 5 • Genetic Microsystem • Gennum Corporation • Geological Survey of Canada • Geomatix • Geonics Limited • GeoSpatial Timberline Incorporated • Geostat • GER-HI-RES • German Federal Government • Gerstel • GG Hatch Isotope laboratory • Gibsons Sound and Vision • Giga-Tron • GlaxoSmithKline Incorporated (GSK) • Global G.A.D. • Global Interiors • GN Nettest Canada • GR Younger Foundation • Green Municipal Investment Fund • Greenhouse Grower Supply • Group4 Technologies • GroupSystems.com • Growing Panes Glassworks • Growsafe Systems • GTMA • Guelph Food and Technology Centre (GFTC) • Guelph Utility Pole Company Limited • GW/Vingmed • Hagen • Haliburton Forest • Halltech • Hamamatus • Hamilton Heath Sciences Corporation • Hamilton Regional Lab Med Prog. • Handshake Interactive Technologies • Hanoun Limited • Harvard Apparatus • Harvard University • Health Canada • Heart and Stroke Foundation of Ontario • Heavy Construction Association of Toronto • Hegermonic • Heidenhain Corp. • Helios/Oceana • Henderson Research Centre • Henrys • Hewlett Packard Company (Compaq) • Hilferdine Scientific • Hitachi • HKL Technology • Holohil Systems • Honeywell Canada • Horiba • Hoskins Scientific • H-Power Enterprises • Huber • Human Resource Development Canada • Huntsman • HVS Image • Hydrogenics • IBB Rheology • IBM Canada • iDesign Solutions • Imagenius • Imaging Research Inc • Imetronic • Immersion Studios • Impulse Systems • Inco Limited • Informax • Infrared Laboratories • InMotion Technologies • Innovation Technology • Innovative Magnetic Resonance Imaging Systems Incorporated (IMRIS) • Innovative Sports Training • Innovision • INSIGNIA Solutions • Instec, Incorporated • Institute for Clinical Evaluation Studies • Institute for Polymer Research • Institute of Biomaterials and Biomedical Engineering • Instron Canada Inc. • Insurance Corporation of BC • Intavis • Integrated Measurement Systems • Intel Corporation • Intelvac • Interfax Canada • Intergraph Geomedia • Interlaken • International Development Research • International Mechatronics Systems Incorporated • Interscience • Intersense Incorporated • InterTechnologies • Intronix Technologies • Ionics/Sievers • Ion-TOF • IPG Photonics • iRobot • Iron Fusion, Ontario • Island Corporation • Isomass Scientific Inc. • Itasca Limited • IXIA • J.P. Bickell Foundation • Jack A. Frost Limited • Jali Medical Incorporated • Jamesway Incubator • Janis Research • Japanese Science and Technology • Jasco Incorporated • JDS Uniphase Corporation • Jeol Canada • JKL Micro • JMC-COSMED • Johanson Innovations • Johnston Ultravec • Jordair • JTech Medical • Juniper • Kaijo Corporation • Kester Solder • Kevin Burke Fund • Kheops Technologies Incorporated • Kintek • Kipp & Zonen • Kistler Inc. • Kodak Canada Incorporated • Kopf Instruments • KQ corporation • Kratos Analytical, Incorporated • Kresge Foundation (USA) • Kurt J. Lesker Company • KVH Industries • Kx Systems • L Oreal/Startup Fund • Lab Products • Lab Products, Incorporated • Labcor • Lakeside Process Controls • Lambda Physik (USA) • Laval Lab Incorporated • LC Tech

Services • Leco Instruments • Leica and Narashige • Leica Canada • Leica Geosystems • Leica Microsystems • Leistritz Corporation • Leitch Technology Corporation • LH Systems LLC • LHSC/RRI • Liburdi Engineering Limited • LiDCO Limited • Lifetronics Medical • Light Machinery • LIS • LMI 3D Machine Vision • London Scientific Limited • Lord Corporation • Lordly Jones Limited • Lotek Wireless • Louisianna Pacific • LSM Technologies • Lucent Technologies • Macintosh Canada • MagiQ Technologies, Incorporated • Magnetic Measurements Limited • Mainline • Maltron Incorporated • Malvern • Mandel Scientific • Manleys Basics • Man-Tech • Man-tech Associates • MapInfo Corporation Canada • Maple Instruments • Maple Leaf Agresearch • Maple Lodge Farms • MAR Research • March McBirney • March Networks • Mars Food Limited • Marsh McBirney Inc. • Mass Multimedia • Massive Die-Form • Masterflex • Materials and Manufacturing Ontario (MMO) • Matrix Vision • Maury • Maxxam Analytics Incorporated • Mayhew • Mayo Clinic • McAllister Funds • McFarland Audio • McGraw Hill Publishers • MDS Laboratories • Measurand Incorporated • Mechanical Dynamics Incorporated • Mediacom • Medi-Man Rehabilitation • Medimmuni • Medisoft • Medoc Advanced Medical Systems • Medtronic Incorporated • Melles Griot • Merck Frosst Canada Limited • Meridian Scientific • Meteoroligical Service of Canada • Metro Toyota • Mettler Toledo • MFC Research Contract • MGP Information Systems Limited • Micralyne • Microage • MicroCal, LLC • MicroLas Lasersystems Germany • Micromass • Micrometrics • Micro-Optics • Microsoft Corporation • Microsoft Research • Microthermics • Microway • Middlesex-London Health Unit • Millenium Technologies International Incorporated • Miltenyi Biotech Incorporated • Mini-Mitter Co. • Ministry of Education (Quebec) • Ministry of Environment • Mirarco/ELRFS • MISCO • Mitel Corporation • MJ Instruments Sales Company • MJ Research Inc. • mmWave Technologies • Moffat Kinoshita Architects Incorporated • Molecular Simulations Incorporated • Molecular Structure Corporation • Monopros Limited Canada • Montfort Hospital • Montreal Biotech • Moor Instruments Incorporated • Morpho-Tech • Motion Analysis Corp. • Motionwatch • MPB Technologies Inc • MPI for Polymer Research • MRTechnologies • MRV Communications • MSI • MTO • MTSCorporation • Muirheads Basics • Multigon Industries Incorporated • MVSystems • myNeuroLab.com • Mynix Technology • Myricom • Myrinet • Namox Incorporated • Nanometrics Incorporated • Nanonics/SFR • Nanovation Technologies • NARSAD and NIMH • NASA - Johnson Space Center • National Cancer Institute of Canada • National Electrostatics Corp • National Instruments • National Research Council (NRC) • National Sanitorium Foundation • National Science Foundation (USA) • Natural Resources Canada • NBTel • NEC CPU • NEDO • Neocera/LamdaPhysik • NetTest Canada • Netzech • Neuro Scan Labs • Neuroceptor Incorporated • NeuroScan Labs • Neurotron • New Focus Incorporated • New Metals & Chemicals • Newark Electronics • Newport Instruments Canada • Nexgen Ergonomics • Niagara Peninsula Childrens Centre • NICHHD • NienKamper • NIH • Nikon Canada Inc. • Nitro Microsystems and HP • NK Biotechnical • NOHFC • Noldus Information Technology • Noraxon • Nortech GSI Incorporated • Nortel Networks Corporation • North Carolina State University • Northern Digital Incorporated • Northern Ontario Heritage Fund • Northstar Medical Systems • Novatech • Novel Dynamics • Novint Tech. Inc. • NRC • NSERC • NTT Photonics Laboratories • Nuaire • Nucletron Canada • NuDaq • Oak Ridge National Labs • Object Workshops Incorporated • OceanOptics/Gamble Technologies • OFR • Ohio Lumex • OHRI • OISE • Oldham and Robinson • Olympus/Carson Group • Omicron • OMM • OMNR Geomatics Section • Onix Lazer • Ontario Cattlemens Association • Ontario Forest Industry • Ontario Living Legasy Trust • Ontario Mental Health Foundation • Ontario Power Generation Incorporated • Ontario Strategic Skills • Ontario Work Study Program • Ontario Workplace Safety Insurance Board • Onward Computer Systems • Opal-RT • OPNET Technologies • Optikon • Optiwave • OptiWave • Optocom • Optotrak • Opus Automation • Oriel/Gamble Technologies • Oriental Scientific Instruments • Origin • ORTECH Environmental • Orthopedic & Arthritic Foundation • Osmonics • Ottawa General Hospital • Ouorum Technologies • Ovantum • Oxford Instruments • Parmalat Canada • Paroscientific Inc. • Parr Instruments • Parsons Engineering K-Bridge • Parsons Engineering Route • Passat Limited • Pattern Discovery Software Incorporated • PCI • PE Biosystems • Peak Motus • Peak Performance Technologies Incorporated • Perkin-Elmer • Pfizer Canada Incorporated • Pharmacia • Phelps Dodge Mining Incorporated • Philips Electron Optics Limited • Philips Medical Systems • Phillips - FEI • Phoenix Geophysics • Photon Technology International • Photonics Research Ontario (PRO) • Placer Dome Incorporated • Plaut Systems and Solutions • Plexon Incorporated • PointGrey Research • Polycontrols • Polytech-PI Inc. • PowerSim Technology Inc • Primate Products Incorporated • Primm Labs • Princess Margaret Hospital Foundation • Princeton Instruments • PriTel • Process Products • Procor Limited • Procyon Biopharma • Prospect Scientific • ProSum Solutions • Protein Solutions • PTI Incorporated • PUC Incorporated • Qiagen • QNX • QPR Systems AB • Q-sense • Qualitytest International Incorporated • Qualix Direct Inc • Qualtech Systems Incorporated • Quanser • Quantum Designs • Quarry Communications • Quesant • Quintron • Quorum Technologies • Raindrop Geomagic • Region of Waterloo • Regional Municipality of Hamilton-Wentworth • Reko Machine Builders • Relion Industries • Remspec Incorporated • Renishaw • Research Corporation • RHC and Associates • RHK Technologies • Richard Brancker Research • Rigaku MSC • Roche-Diagnostics • Rockwell Automation • RocScience Incorporated • Rofin-Sinar • Rogers Cable • Rogue Research • Ronin Consulting Services • Roper Scientific • Rose Scientific • Roxon Medi-Tech Limited • Royal Ontario Museum • RSoft Inc. • RTDS Technologies, Winnipeg • RWDI • Ryobi Die Casting (USA) Incorporated • Sable Systems • Safe Software • Saint Marys Pulp and Paper Limited • San Diego Instruments • Sapphire Instruments • Saudi Arabia Government • Scanco • Scanditronix-Wellhofer Inc. • Schering Canada • Science Imp. • ScienceTech Incorporated • Scientific Imaging Technologies Incorporated • Scientific Instruments • Scientific Products and Equipment • Sciex • Sci-Med Incorporated • Scintrex Earth Science • SCP Science • Screening Systems • Sea & Sea • Seimens Canada • Sensible Technologies • SensoMotoric Instruments • Sensor Technologies Limited • Sensors and Software Incorporated • Sevets • SFR • SG Power • ShapeGrabber • Shapetape • Shelley Medical Imaging • Shwachman Diamond Canada • Sievers/Ionics • Sigmacon • Silicon Graphics Inc. • Silicycle • Silvaco Data Systems • Simon Fraser University • Singer Instruments • Skycan • SMART (Halifax) • SmarterKids Foundation • SMS Machine Tool Limited • SOCC Optoelectronics (USA) Incorporated • Softchoice Corp. • Solinst Canada Ltd. • Soltek Powersource Ltd. • Sonometrics Corporation • Sony Canada • Soquetec • South Bay Tech. Incorporated • Southwest Sun Incorporated • Spatial Geo-Link Limited • Specialty Equipment • Specs Gmbh • Spectra Research Corporation • Spectral Dynamics • Speed-Com Technologies • Spencer Foundation • Spotfire • SPSS Incorporated • Spyn, Incorporated • SR Research • SRI Instruments • SSEF • ST Microelectronics • Standard Imaging • Standford Research Systems • Stantive Solutions Incorporated • Starkey, Avaaz • Start-up Grant, Eric Croiset • Statistics Canada • Stealth Computers Corporation • Stens Corporation • Steris Canada • Steves Music • Stoelting • Stratasys Incorporated • Strategic Concepts • Stratogene • Sudbury Regional Development Corporation (SRDC) • Sumitomo Electronic USA Incorporated • Summit Technologies Incorporated • Sun Microsystems • Suncor Energy Foundation • Sutter Institute • SVT Associates • Swiss Instrument Limited • Syntest Technologies • Systems for Research Corp. • T&T • TA Instruments • TD Canada Trust Bank • Technel • Technical Safety and Standards Authority (TSSA) • Teknion • TekniScience • Tektronix Canada • Telelogic • Telus • Terraplus Incorporated • Test Equity • Test Force • Testforce • Testing Machines Inc • Tetra Pak Canada Incorporated • Texas Instruments • Thar Designs • The C3 Group • The Centre for Addiction & Mental Health • The Drafting Clinic • The MathWorks • The Ottawa Hospital (TOH) • The Pump Works • Thermo Finnigan • Thermo Instruments • Thermo Mat. Characterization • Thermomicroscope • Thiessen Team Manufacturing • Throne Computer Systems • Timber Specialities Limited • Titles Microcentre • Topcon Canada • Toronto Atmospheric Fund • Toronto General Hospital • Toronto Region Conservation Authority • Toronto Road Builders Association • TorroVap Ltd. • Toxin Alert • TrackMe • TransCan • Transim • Transition Technologies • Trilon quality Systems • Trimension • Tripos Incorporated • TRIUMF • Trudell Medical International • TSI Incorporated • TurboSonic • TVO • Tyco Healthcare • U.S. EPA • U.S. Office of Naval Research • UBC Blusson • Ultramar Canada • Unidata • Unilever Group • Uniroyal Chemical Limited • Unitec-Horton • United Grinding Tech. • Unitek-Miyachi • Universal Laser (CES) • University of Laval • University of Manitoba • University of New Mexico • Upton and Sullivan • USDA • USDOE • USE Hickson Building Products Limited • USFT • UVP Bioimaging Systems • Varian Incorporated • Varian Vacuum Technologies Ltd. • VC Scientific • Veeco Instruments Incorporated • Vendor Discounts • Ventana • Verifia • Vicon Incorporated • Videoscope • Videoworks • Viromart Limited • Virtek Laser Systems Incorporated • Vir-Tis • Virtual Micro • Viscotek Corporation • Visible Genetics Incorporated • Vistek • Vivid Group Inc. • Vonsovici Consulting • VP Research • VRP Web Technologies • VWR Canada • Wale Apparatus • Wards Automotive • Waterline Limited • Waters Chromatography Incorporated • Waters Limited • Westaim Corporation • Weston Bakeries • Wetec • Whitaker Foundation • WipWare • Wolfram Research • Wyatt Technologies • Xerox Corporation • Xerox Research Centre of Canada (XRCC) • Xilinx Corporation • XL Resonance • Xymotech • Yolles Group • Zanini Developments • Zeidler Grinnell Partnership, Architects • Zeiss Canada • Zeiss Empix Imaging • Zeton Inc. • Zygo Corporation • Zymark •



Criteria for Investment

The Ontario Innovation Trust has made its investments on the basis of the following criteria:

- Will the project enhance the province's capacity for innovation, economic growth, health or environmental quality?
- Will it contribute to Ontario's ability to retain and attract highly qualified research personnel?
- Will it encourage collaboration with the private sector?
- Will it encourage the sharing and efficient use of research infrastructure among and within institutions?
- Will it contribute to Ontario's existing strengths in research?

A further criterion for investment has been a project's ability to secure funding from the Canada Foundation for Innovation.

Most Trust-supported projects have been funded according to the following formula: 40 percent from the Trust, 40 percent from the Canada Foundation for Innovation, 20 percent from the institution and its partners.

The Ontario Innovation Trust continues to track investments and manage cash flow on each project according to the goals and timelines set out when the project was approved.

THE CFI:

A PARTNER FOR INFRASTRUCTURE

In making its infrastructure investments, the Trust has always worked closely with its federal counterpart, the Canada Foundation for Innovation. The CFI has been a valuable source of information and expertise at every stage of the investment process, from initial assessment of project applications through on-going evaluation of funded research.

www.innovation.ca

Canada Foundation for Innovation
Fondation canadienne pour l'innovation

THE TRUST AND THE PROVINCE:

AN ONGOING RELATIONSHIP

The Ontario Innovation Trust was established by the Government of Ontario in 1999, and has now invested the entire amount of its capital endowment, plus earned interest. The Trust continues to build public and private sector support for research through a working relationship with the Ministry of Research and Innovation that involves:

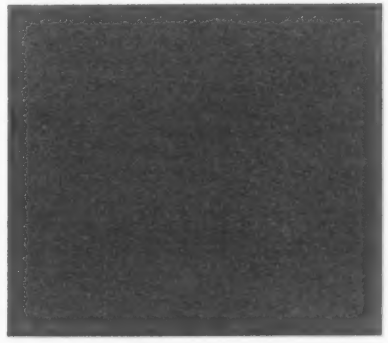
- publicizing Ontario research successes and significant milestones;
- partnering in promoting the importance of research and innovation to the province;
- sharing of information and progress reports.

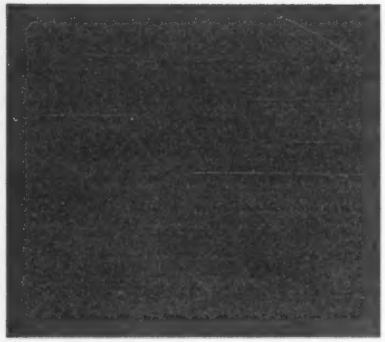
The Ontario Research Fund was established in 2004 to continue providing research infrastructure investments.

www.mri.gov.on.ca

Ontario

For a complete and up-to-date list of Ontario Innovation Trust investments visit us at *www.oit.on.ca*





THE BOARD OF THE ONTARIO INNOVATION TRUST

The Ontario Innovation Trust is governed by a seven-member Board of Directors. Two Board members are appointed by the universities of Ontario, one member each by the hospitals and community colleges and three by the Government of Ontario.

BOARD MEMBER	TERM OF SERVICE	APPOINTED BY
Rob Prichard Chair	2001 – present	Universities
Bette Stephenson	1999 – present	Hospitals
Calvin Stiller	1999 – present	Universities
Rick Miner	2002 – present	Community Colleges
Tim McTiernan*	2004 – 2006	Province of Ontario
Phil Howell	2005 – present	Province of Ontario
Janet Mason	2005 – present	Province of Ontario

*George Ross was appointed to replace Tim McTiernan as of August 1, 2006.

Summarized Financial Statements

Year ended March 31, 2006

PKFHill
chartered accountants

[redacted]

Auditors' Report

To the Directors of
Ontario Innovation Trust

The accompanying summarized balance sheet and summarized statements of operations and capital and changes in capital are derived from the complete financial statements of **Ontario Innovation Trust** as at March 31, 2006 and for the year then ended. In our auditors' report on the complete financial statements dated May 31, 2006, we expressed an unqualified opinion. The fair summarization of the complete financial statements is the responsibility of management. Our responsibility, in accordance with the applicable Assurance Guideline of the Canadian Institute of Chartered Accountants, is to report on the summarized financial statements.

In our opinion, the accompanying financial statements fairly summarize, in all material respects, the related complete financial statements in accordance with the criteria described in the Guideline referred to above.

These summarized financial statements do not contain all the disclosures required by Canadian generally accepted accounting principles. Readers are cautioned that these statements may not be appropriate for their purposes. For more information on the entity's financial position, results of operations and cash flows, reference should be made to the related complete financial statements.

PKF Hill LLP

May 31, 2006

[redacted]

Summarized Balance Sheet as at March 31

	2006	2005
ASSETS		
Current assets		
Cash and prepaid expenses	$ 57,440	$ 92,026
Short-term investments	56,619,622	273,523,466
Due from Innovation Institute of Ontario	80,000	-
	56,757,062	273,615,492
Long-term investments	104,069,344	-
Due from Innovation Institute of Ontario	80,000	160,000
Property and equipment	97,787	138,401
	$ 161,004,193	$ 273,913,893
LIABILITIES AND CAPITAL		
Current liabilities		
Accounts payable and accrued liabilities	$ 111,102	$ 115,224
Due to Innovation Institute of Ontario	203,072	176,364
	314,174	291,588
Capital		
Invested in property and equipment	97,787	138,401
Restricted for approved grants (internally restricted)	153,899,435	271,664,617
Unrestricted	6,692,797	1,819,287
	160,690,019	273,622,305
	$ 161,004,193	$ 273,913,893

Summarized Statement of Operations and Capital
Year Ended March 31

	2006	2005
Revenue		
Interest income	$ 7,595,309	$ 7,730,308
Expenses		
Service fees paid to Innovation Institute of Ontario	687,475	615,250
Consulting and management services	665,030	559,107
Salaries and benefits	480,678	456,653
Investment and custody services	175,678	303,788
Office and general	79,627	129,726
Amortization	48,806	11,032
Travel	47,684	10,326
	2,184,978	2,085,882
Excess of revenue over expenses	5,410,331	5,644,426
Eligible project disbursements	(118,342,617)	(80,847,920)
Decrease in capital during the year	(112,932,286)	(75,203,494)
Capital, beginning of year	273,622,305	348,825,799
Capital, end of year	$ 160,690,019	$ 273,622,305

Compensation Disclosure
In accordance with the Public Sector Salaries Disclosure Act, all salaries in excess of $100,000 have been reported to the Province of Ontario and are as follows:

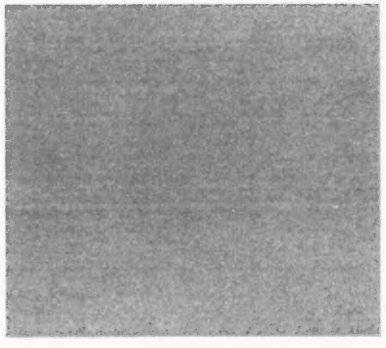
	2006	2005
David Bogart	$ 125,000	$ 125,000
Christopher Pringle	111,668	105,445

Christopher Pringle is on a leave of absence from the Government of Ontario and additional amounts were paid him to allow him to maintain contributions to Government pension and benefits plans without penalty.

Included with consulting and management services expenses are payments in the amount of $133,699 (2005 -$133,750) made on a purchase of services basis to Knox Innovations for the services of Kenneth W. Knox as President and CEO of the Trust.

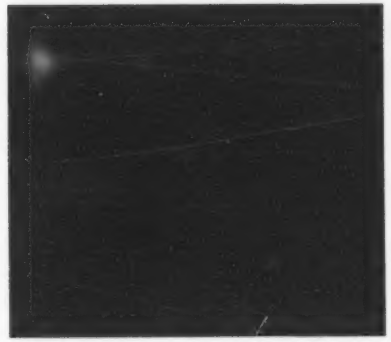
Summarized Statement of Changes in Capital
Year Ended March 31

	2006				2005
	Invested in Property and Equipment	Restricted for Approved Grants (Internally Restricted)	Unrestricted	Total	Total
Capital, beginning of year	$ 138,401	271,664,617	1,819,287	$ 273,622,305	$ 348,825,799
Excess (deficiency) of revenue over expenses	(48,806)	-	5,459,137	5,410,331	5,644,426
Purchase of property and equipment	8,192	-	(8,192)	-	-
Eligible project disbursements	-	(118,342,617)	-	(118,342,617)	(80,847,920)
Grants approved	-	577,435	(577,435)	-	-
Capital, end of year	$ 97,787	153,899,435	6,692,797	$ 160,690,019	$ 273,622,305

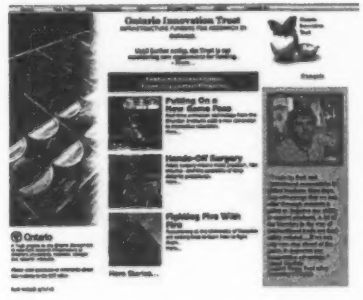


HIGHLIGHTS AT A GLANCE

	Report Period April 1, 2005 to March 31, 2006	Inception to March 31, 2006
Ontario Innovation Trust Investment	$577,435	$844.7 million
Investment from other sources	$922,706	$1,592.7 million
Total Value of Infrastructure Investment	$1,500,141	$2.44 billion
Number of Projects funded by the Ontario Innovation Trust	4	1,251
Private and Public Sector Partners involved		1,000+
Universities involved		18
Community Colleges involved		15
Research Hospitals and Health Science Research Institutions involved		11
Other Research Institutions involved		2



EXPLORE THE TRUST'S NEW WEB SITE!



The Ontario Innovation Trust web site now has a whole new look, with a new emphasis on pictures and stories about supported research.
Visit us at www.oit.on.ca

Ontario Innovation Trust™

MaRS Centre, Heritage Building
101 College Street, Suite HL20
Toronto, Ontario M5G 1L7
416-977-9188 Fax: 416-977-9460
www.oit.on.ca
innovation@oit.on.ca